Rangarajan Committee Report on Poverty Measurement
Another Lost Opportunity

This is a critical assessment of the Rangarajan Expert Committee on poverty measurement. While much of the media coverage has focused on the poverty lines recommended by the Committee, this article evaluates the methodology adopted and discusses some wider issues that were flagged in the terms of reference set for this Committee. It argues that the Committee missed an opportunity to mark a significant departure from previous approaches (especially in widening the measure of poverty) and provides illustrative empirical evidence in support of this assertion.

1 Introduction

The recent “Report of the Expert Group to Review the Methodology for Measurement of Poverty” has put the spotlight back on an issue which grabs media headlines periodically as one “expert committee” after another releases a new set of poverty lines in India. The latest such committee, the Expert Group to Review the Methodology for Measurement of Poverty, also known as the Rangarajan Expert Committee (after its chairman the economist C Rangarajan), was set up as a knee-jerk reaction to the adverse publicity generated by its predecessor, namely, the Tendulkar Expert Committee which proposed a new methodology for poverty measurement that yielded a set of rural and urban poverty lines that was deemed to be too low.

The Tendulkar Committee’s recommendations would probably have been consigned to history without much fanfare but for an overzealous Planning Commission which made an affidavit to the Supreme Court in September 2011 that stated that households with per capita consumption of more than Rs 32 in urban areas and Rs 26 in rural will not be treated as poor. Such a claim was bound to be controversial since, to many people, this suggested restricting the subsidies such as the public distribution system (PDS) offered to households below these lines. In a panic reaction to the media frenzy that followed, the Planning Commission constituted yet another expert committee in May 2012, to revisit the issue of poverty measurement. After missing a few deadlines, the Rangarajan Committee has finally submitted its report.

While much of the media coverage on the Rangarajan Committee’s report has focused attention on the new poverty lines that it has recommended, this commentary provides a critical review of the methodology that the Committee has adopted, pointing out areas of strengths and weaknesses. Poverty enumeration has always been a sensitive issue in India, especially because to many people enumeration is (wrongly) identified with targeting. Though the government always tries to deflect adverse reaction to new poverty lines by stressing that they will not be used for targeting and in defining a below the poverty line (BPL) household, that raises the obvious question: why then have such expert committees at all, since it is now well accepted that, given a set of expenditure-based and one dimensional poverty lines, poverty rates (but not poverty numbers) have been declining in India.

The exclusive focus on the set of poverty lines proposed by these expert committees, and the media coverage of the Rangarajan Committee report is no different, is a pity because the reports raise a wider set of methodological and data issues that need careful scrutiny. This article tries to steer the debate in such a direction. As we argue below, the Rangarajan Committee lost an opportunity to mark a significant departure from the previous approaches and ended up with a report that is “more of the same” with some tinkering at the edges but with no real advancement. This is all the more disappointing since the terms of reference (ToR) for this committee were wide ranging and provided considerable scope for significant methodological advances in poverty measurement.

2 Background

The history of expert groups on poverty measurement can be traced back to 1962 when a working group was set up by the Planning Commission to devise a methodology of poverty estimation. This was followed by the setting up of a task force in 1977 under the chairmanship of Y K Alagh. This committee provided for the first time poverty lines anchored to minimum nutritional requirements,
namely, 2,400 daily kcals in rural areas and 2,100 daily kcals in urban areas.

This was a modification of the results of Dandekar and Rath who in 1971 formed the view, based on National Sample Survey (NSS) data from 1960-61, that the minimum calorie requirements were 2,250 daily kcals in both rural and urban areas and could be achieved by households with annual per capita expenditure of Rs 170.80 in rural and Rs 271.60 in urban areas.

The next committee, the first of three “expert committees”, was set up under the chairmanship of D T Lakdawala and it submitted its report in 1993. While sticking to the idea of poverty lines based on minimum nutritional requirements, this committee suggested that state-specific poverty lines should be constructed and these should be updated using the Consumer Price Index of Industrial Workers (CPI-IW) in urban areas and Consumer Price Index of Agricultural Labour (CPI-AL) in rural areas.

There was no attempt to take note of changing food preferences nor whether the updated poverty lines were sufficient to buy the originally specified calorie requirements in the rural and urban areas.

Consequently, large divergences opened up between the poverty rates calculated by “direct” method on the basis of actual calorie intakes vis-à-vis the minimum requirements, and the “indirect” method based on per capita expenditures vis-à-vis the periodically updated poverty lines (see, for example, Patnaik 2004; Ray and Lancaster 2005; Ray 2007). Consequently, while the former, referred to as “prevalence of undernourishment” (POT) rates increased, the latter (the expenditure-based poverty rates (Pov)) declined.

As Ray (2007) documented, for example, a significant percentage of households above the expenditure-based poverty line was unable to meet the minimum calorie requirements. This called into question the practice of defining a “poor household” solely on the basis of its per capita monthly expenditure vis-à-vis a poverty line expenditure cut off without considering the household’s access to a wide set of dimensions on which there is information available in India today, some in the NSS itself. While debate rages between economists as to which is the “correct” approach, the rates of stunted and wasted children in India refused to show much improvements unlike in other Asian countries such as China and Vietnam (Ray and Sinha 2014).

The next expert committee, set up under the chairmanship of S Tendulkar, submitted its report in 2009. The Tendulkar Committee is significant in at least two respects, both of which marked retrograde movements from the work of the previous task force expert committees.

It delinked poverty lines from calorie requirements disowning the body of work that can be traced back to Dandekar and Rath, and even earlier. Moreover, it abandoned the practice of using two separate poverty line baskets for deriving rural and urban poverty lines. It used the all-India urban poverty line basket to derive state-level rural and urban poverty lines. The methodology adopted by the Tendulkar Expert Committee constituted another radical departure in that it started with an “acceptable” all-India urban poverty rate of 25.7% in 2004-05 and worked backwards in specifying poverty lines that generated such a poverty rate. This is the very reverse of the universal practice of first specifying poverty lines and then working out the poverty rates. It is against this background that the latest expert committee was set up under the chairmanship of C Rangarajan a few years after the Tendulkar Committee submitted its report.

3 Terms of Reference and Methodology

The ToR for the Rangarajan Committee provided room for a serious rethink of the concept of poverty in India.

Some of the significant elements of the ToR were:

“(a) To examine whether the poverty line should be fixed solely in terms of a consumption basket or whether other criteria are also relevant…

“(b) To examine the issue of divergence between the consumption estimates based on the NSS methodology and those emerging from the National Accounts aggregates, and

“(c) To recommend how the estimates, as evolved above, should be linked to eligibility and entitlements for schemes and programmes under the Government of India.”

The Rangarajan Committee’s response to each of these has been disappointing.

With reference to (a), there was a real opportunity to widen the concept of poverty to embrace multidimensional deprivation (MDD) and poverty following the work of Amartya Sen and Mahbub-ul-Haq in setting up the Human Development Index (HDI) and, more recently, the work of Chakravarty and D’Ambrosio (2006) in defining MDD and that of Alkire and Foster (2011) in defining multidimensional poverty (MDP).

As the papers by Jayaraj and Subramanian (2010) and Ray and Sinha (2014) showed, both these measures can be readily implemented for India using available data from the NSS and the National Family Health Survey (NFHS). The summary dismissal of this approach by the Rangarajan Committee on the ground that “the deployment of criteria other than consumption expenditure in the measurement of poverty raises several issues regarding measurement and aggregation (that) render such exercises impractical” is unacceptable when papers such as the ones mentioned above provide a framework to confront such aggregation issues and move the literature forward.

At a time when the Human Development Reports (HDRs) from the 2010 HDR onwards routinely provide estimates of MDP, it is strange that the Rangarajan Committee is still stuck within the age-old boundary of churning out expenditure-based poverty rates. Moreover, such an assertion by the Rangarajan Committee overlooks the fact that aggregation issues arise in the case of expenditure-based poverty rates as well, but no one suggests that we should stop using total expenditure-based poverty lines. For example, a person well above the poverty line for non-food items may be well below that of the food poverty line making that individual highly “food insecure” but “non-food secure”. The Rangarajan Committee had the opportunity to embrace both concepts of poverty into a comprehensive measure,
especially given India’s unique data base provided by the NSS and NFHS, but it failed to do so.

The issue whether the absolute view of poverty that has underlined all poverty line specifications in India is relevant in a country which has seen a huge increase in inequality in the decade of the 1990s and beyond. One can argue that we should be moving towards a relative view of poverty where the minimum requirements increase with the rising affluence of the middle and higher expenditure classes. The Rangarajan Committee does make a positive contribution by anchoring the minimum requirements in clothing, rent, conveyance and education expenses at the median fractile in a significant departure from previous practice.

The inconsistency between survey data and macro aggregates has been a significant issue in most countries, more so in India where the NSS mean consumption levels have been well below that from the National Accounts Statistics (NAS) with the divergence growing over time. While the earlier Planning Commission practice of adjusting the NSS consumption distribution pro rata by the difference between the NSS and NAS lacked any scientific basis, following the Lakdawala Committee’s recommendations in March 1997 this practice was discontinued and replaced by an equally non-defensible strategy of ignoring the discrepancy altogether.

While the NSS is a rich source of information for poverty analysis, an uncritical acceptance of this data that has been adopted by all the past three expert committees, including the Rangarajan Committee, is difficult to justify. The results of Banerjee and Piketty (2005) based on individual tax return data suggest, for example, that the large rise in the top incomes in India during the 1990s, following liberalisation, may explain a significant part of the difference between the NSS and NAS data sets. If, as this implies, the NSS is understating or totally missing the expenditures of the top 1%, then the true “median household” is richer than the one that is picked up from the observed NSS distribution. Since the poverty line calculations on non-food items, as per the Rangarajan Committee’s methodology, are based on the NSS reported median household spending on clothing, rent, conveyance and education expenses, this is likely to have contributed to an underestimate of the minimum spending requirements on such items. While pro rata adjustment of the NSS data is no satisfactory answer, ignoring the issue altogether is much worse. The Rangarajan Committee lost the opportunity to propose a sensible compromise to resolve this issue that has acquired considerable significance. Instead, the Committee uses a little known and little used data set collected by the Centre for Monitoring Indian Economy, and an odd concept of a “poor” household (one that is unable to save), to benchmark the poverty figures obtained using their recommended methodology.

The issue of moving beyond poverty enumeration to anti-poverty targeting is also quite significant and underlines (c) in the ToR mentioned above. ToR (c) is related to ToR (a) since it invites a widening of the investigation to non-money metric measures such as access to a wide range of dimensions. The question of who among the conventionally counted poor should be eligible for treatment as BPL households for inclusion in the PDS is a live issue and has already generated a significant literature (see, for example, Mishra and Ray 2013; Alkire and Seth 2013). The study by Alkire and Seth (2013), for example, proposes “a methodology to target multidimensionally poor households, and how to update that targeting exercise periodically”. That paper is particularly significant since it “compares the fit between a benchmark measure of multidimensional poverty and several plausible targeting methods to determine which method(s) approximate it – as well as related measures – most closely”. In refusing to widen the definition of poverty to include multidimensional poverty, the Rangarajan Committee missed the opportunity to make a real contribution to a serious practical issue on moving from enumeration to identification and targeting.

Methodology: The poverty line proposed by the Rangarajan Committee has three components: (a) the food poverty line that is based on the “average” requirements of calories, fat and protein, (b) normative requirements of the basic non-food expenses of clothing, housing, mobility and education based on the median fractile values, and (c) observed other non-food expenses of the “fractile classes that meet the nutrition requirements”.

The restoration of the link of the poverty line with calorie norms marks a positive move forward, though no justification has been provided for sharply reducing the rural daily calorie requirement from 2,400 kкал to 2,155 kкал. The suggestion that the calorie requirement has come down sharply due to lifestyle changes has been denied by Sen (2005) who argues that “although it is true that both the population structure and the intensity of labour effort have changed for the population as a whole, there is no evidence to show that such is the case for the population around the poverty line” (p 4612). Since Ray (2007) has shown that many of those not meeting their daily calorie requirements in rural India are quite close to the 2,400 kcal level, the lowering of the calorie requirements by around 10% may have led to a significant understatement of poverty.

Micronutrients
It is also not clear either why the Committee ignored micronutrient requirements especially, because in India iron deficiency is a significant cause for anaemia and maternal ill health. The report’s claim that nutritional deficiency has no effect on a child’s health is contradicted by Indian evidence provided in Maitra, Rammohan, Robitaille and Ray (2013). A policy implication of the results in this study is the need to provide mothers with young children extra dietary assistance to prevent their ill health from being transmitted to their offsprings, an aspect that needs to be recognised in the poverty line calculations. Another implication is the need to draw separate poverty lines for families differing in size and composition, as they do in the United States. For example, smaller
families, such as female headed households, do not enjoy the benefits of economies of scale that are experienced by the larger households. The Rangarajan Committee ignores the issue altogether.

The Committee’s selection of a household from the all-India distribution of households that just meets the three nutritional norms and then use that household’s expenditure as the food poverty line ignores the large variation in dietary habits within India (Ray 2007).

It would have been more realistic to follow this procedure for each state and each region (rural, urban) and fix the poverty line state-wise rather than derive the state poverty lines from the cost of buying the all-India basket of items.

Another positive aspect of this Committee’s methodology is the use of unit values from the NSS expenditure and quantity figures to construct spatial price indices that are then used to derive state-level poverty lines from the all-India poverty lines. These are preferable to the price indices (CPI-AL, CPI-IW) used previously. These aggregate price indices do not reflect the true prices paid by the poor and are inappropriate in poverty calculations. The report does not clarify, however, which unit value for each item is used as there is a distribution of unit values, one for each household, tracking the expenditure distribution. Moreover, almost certainly, the raw unit values have been employed rather than adjusting them for quality and household composition effects. This will bias downwards the unit values for the poor since they often report cheaper prices because they only have access to qualitatively poorer items. In the econometric terminology, unit value is an “endogenous” variable that needs to be “instrumented” by variables that net out the choice aspects of an observed unit value. Majumder, Ray and Sinha (2012, 2014) have proposed a methodology for adjusting the raw unit values before using them to construct spatial price indices in India that could prove useful in poverty calculations. We provide below evidence that shows that the adjustment to unit values significantly affects the poverty lines. The Rangarajan Committee uses the Fisher index to aggregate the item-wise price indices to an overall price index. The Fisher price index that is the square root of the Laspeyres and Paasche price indices is inferior to the utility-based “exact price indices” that allows greater role to substitution between items than is allowed by the fixed weight price indices. As Majumder, Ray and Sinha (2012) have shown, India now has a sufficiently long time series of NSS surveys to permit the use of demand estimation based on unit values that could be used in constructing realistic “true cost of living indices”.

4 Some Relevant Empirical Evidence

This section provides empirical evidence that substantiates some of the points made above. The most significant is the need to revisit the issue of poverty taking a wider view of poverty using multi-dimensional deprivation and comparing it with conventional expenditure-based poverty, as laid out in the TOR of the Rangarajan Committee.

Figure 1, from Mishra and Ray (2013), compares the conventional NSS-based expenditure poverty rates with the NFHS-based MDD rates by plotting the conventional headcount poverty rate and the deprivation measure, π(α), against state per capita household expenditure (obtained from the NSS) at α values of 1 and 3. A higher α denotes a greater focus on the more deprived households. The figure allows comparison between the graphs for NSS, 61st round and NFHS-3. The graphs confirm the negative relationship for both data sets and for both α values – in other words, expenditure poverty and MDD both decline as one moves from the poorer to the more affluent states. Three interesting features are worth noting. First, the downward sloping graphs seem to flatten out at some point which suggests that relying solely on overall economic prosperity will not drive poverty or deprivation to zero or to negligible values – more interventionist policy and direct anti-poverty and anti-deprivation measures need to be implemented. Second, as we increase α, that is, if we consider the more deprived households, economic progress leads to a faster decline in the NFHS-based deprivation by nudging them from “severely deprived” to “moderately deprived” group of households. Third, in case of the poorer states, the gap between NFHS-based

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deprivation and NSS-based deprivation is much larger for higher values of $\alpha$ but the gap declines much faster for the higher $\alpha$ value as we move from the poorer to the more affluent states. The last feature is not surprising since health deprivation, which drives the wedge between the NSS and the NFHS deprivation rates, especially for the more deprived households, matters much less in case of the more affluent states. These graphs confirm that the conventional expenditure poverty measure using NSS expenditures understates the true extent of deprivation prevailing at a given time.

Further insight into the wider perspective on poverty measurement is provided in Figure 2 which compares the conventional, expenditure-based, and one dimensional poverty rates with the MDD rates following Chakravarty and D’Ambrosio (2006) and Jayaraj and Subramanian (2010). The latter considered three dimensions: expenditure-based poverty status of the household, literacy status of the household head, and access to clean cooking fuel, and is similar in spirit to the HDI. The former is therefore a subset of the latter. Both sets of calculations are based on information contained in the NSS 66th round. The graphs plot the relationship between the alternative concepts of poverty and per capita state monthly expenditure. Similar to Figure 1, there is a negative relationship between a state’s affluence and its expenditure poverty/MDD. The latter can be viewed as measuring the deprivation of the households who are both below the conventional poverty line and are denied access to education and clean cooking fuel. The distinction is analogous to that drawn between the “poor” and “ultra-poor” households defined on $2 and $1.25 a day, respectively, at 2005 PPP but is based this time on a wider set of information involving both money metric and access variables unlike the traditional distinction. The graph shows that the gap increases with state affluence. In other words, the need to take a wider view of deprivation than is considered in the Rangarajan Committee and those before it actually becomes more important, not less, in the more affluent states. If the assessment of how a country is performing in meeting the minimum requirements of its population is the main driving force behind poverty measurement, then both these figures point to the need to supplement traditional expenditure information with that on the household’s access to a wide range of dimensions.

One of the positive aspects of the Rangarajan Committee’s methodology is the use of unit values obtained from the NSS reports to construct spatial prices needed to construct state-level poverty lines. There is, however, no information on how, if at all, the unit values were adjusted to take account of quality and demographic effects. Table 1 provides evidence on this by comparing based on NSS 66th round data the state-level poverty lines for 15 major states between that in Table 4.5 of the Rangarajan Committee report (presumably based on unadjusted unit values) and that implied by the adjusted unit values following the Laspeyres price index-based procedure outlined in Majumder, Ray and Sinha (2012, 2104). The latter takes as the starting point the all-India poverty lines reported in the Rangarajan Committee report, so both sets have the same all-India poverty line and are therefore directly comparable. Clearly, the adjustment does make a difference to the state poverty lines, more for some states, less for others, and this will have a significant impact on the poverty rates reported in the report.

5 Concluding Remarks

The Rangarajan Committee on poverty measurement has several positive features such as the return to the calorie norm, the anchoring of the non-food

Table 1: Comparison of State Poverty Lines between Unadjusted and Adjusted Unit Values for NSS 66th Round

<table>
<thead>
<tr>
<th>State</th>
<th>Rangarajan Committee (Unadjusted unit values)</th>
<th>Spatial (MRS* method)/Laspeyres Index (Adjusted unit values)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rural (+Food)</td>
<td>Urban (+Food)</td>
</tr>
<tr>
<td>Andhra Pradesh</td>
<td>832.27</td>
<td>1,258.29</td>
</tr>
<tr>
<td>Assam</td>
<td>840.47</td>
<td>1,232.2</td>
</tr>
<tr>
<td>Bihar</td>
<td>818.77</td>
<td>1,032.82</td>
</tr>
<tr>
<td>Gujarat</td>
<td>859.35</td>
<td>1,244.8</td>
</tr>
<tr>
<td>Haryana</td>
<td>879.65</td>
<td>1,275.45</td>
</tr>
<tr>
<td>Karnataka</td>
<td>680.81</td>
<td>1,145.52</td>
</tr>
<tr>
<td>Kerala</td>
<td>803.06</td>
<td>1,139.81</td>
</tr>
<tr>
<td>Madhya Pradesh</td>
<td>772.29</td>
<td>1,153.59</td>
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<tr>
<td>Maharashtra</td>
<td>829.29</td>
<td>1,331.33</td>
</tr>
<tr>
<td>Odisha</td>
<td>715.56</td>
<td>1,030.67</td>
</tr>
<tr>
<td>Punjab</td>
<td>888.08</td>
<td>1,230.66</td>
</tr>
<tr>
<td>Rajasthan</td>
<td>864.49</td>
<td>1,186.74</td>
</tr>
<tr>
<td>Tamil Nadu</td>
<td>785.66</td>
<td>1,179.8</td>
</tr>
<tr>
<td>Uttar Pradesh</td>
<td>768.65</td>
<td>1,130.76</td>
</tr>
<tr>
<td>West Bengal</td>
<td>767.20</td>
<td>1,162.06</td>
</tr>
<tr>
<td>15 States</td>
<td>807.04</td>
<td>1,182.3</td>
</tr>
<tr>
<td>All-India</td>
<td>801</td>
<td>1,198</td>
</tr>
</tbody>
</table>

Source: Authors’ calculations based on NSS 66th round.
requirements to a normative basket based on the median non-food expenditures and the use of unit values from household expenditure unit records instead of the conventional aggregate price indices used previously. However, it missed the opportunity to go beyond the expenditure-based poverty rates and examine the possibility of a wider multidimensional view of deprivations. Theror of this committee was wide ranging and invited such an investigation. Its summar dismissal of the multidimensional approach is a disappointment, especially when there has been significant methodological advancement in the area. Unfortunately, we will have to wait for the next expert committee to question and examine the concept of an absolute and one-dimensional view of poverty that has dominated the poverty measurement literature in India. The same comment applies to the Rangarajan Committee’s failure to recognise the large increase in inequality in India during the 1990s and beyond that should have encouraged a rethink of the ‘absolute’ view of poverty that has characterised the working of successive expert committees.

NOTES
1. We are grateful to Gaurav Datt for drawing this study to our attention.
2. For the purpose of these graphs, we have pooled the rural and urban data and treated the rural and urban areas of the state as separate points, giving us a scatter of 30 points for each data set.
3. Since the decline is much less rapid for the NSS, this suggests that the improvement in the deprivation occurs mainly because of the health-based deprivation dimensions.

REFERENCES

The Problem of Caste
Edited by
Satish Deshpande

Caste is one of the oldest concerns of the social sciences in India that continues to be relevant even today. The general perception about caste is that it was an outdated concept until it was revived by colonial policies and promoted by vested interests and electoral politics after independence. This hegemonic perception changed irrevocably in the 1990s after the controversial reservations for the Other Backward Classes recommended by the Mandal Commission, revealing it to be a belief of only a privileged upper caste minority – for the vast majority of Indians caste continued to be a crucial determinant of life opportunities.

This volume collects significant writings spanning seven decades, three generations and several disciplines, and discusses established perspectives in relation to emergent concerns, disciplinary responses ranging from sociology to law, the relationship between caste and class, the interplay between caste and politics, old and new challenges in law and policy, emergent research areas and post-Mandal innovations in caste studies.

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