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Headcount Poverty Comparisons

by S. Subramanian,
Madras Institute of Development Studies, Chennai, India

The most elementary, and also the most widely employed, means of assessing the extent of poverty in any society is to obtain a simple headcount of the poor. The poor are those whose incomes fall short of a stipulated poverty line. The commonest measure of poverty is the *headcount ratio*, H, which is the proportion of the poor in the total population. An alternative, and far less routinely used headcount index, is the *aggregate headcount*, A, which is the total absolute number of the poor. A problem for the measurement of poverty – and one which is only rarely acknowledged by professional economists – is that the headcount ratio and the aggregate headcount can provide contrary poverty rankings. For example, if in some initial time period 30 persons in a population of 100 are poor, while in a later time period 40 persons in a population of 200 are poor, then the headcount ratio *declines* from 30 per cent to 20 per cent, whereas the aggregate headcount *rises* from 30 persons to 40 persons. This type of problem is often encountered. For example, using a poverty line of 2.15 Purchasing Power Parity dollars per person per day, the global headcount ratio has been estimated to have declined from 66.7 per cent in 1981 to 52.9 per cent in 1991, while over the same period, the global aggregate headcount has been estimated to have risen from 2,450 million to 2,735 million.[1]

A strong argument in favour of the headcount ratio over the aggregate headcount is that the former, unlike the latter, satisfies what one might call a '*Likelihood Principle*', which is the requirement that a poverty measure should convey some information about the probability of encountering a poor person in any given society. On the other hand, the aggregate headcount, unlike the headcount ratio, satisfies a principle called the '*Constituency Principle*.' This is a general principle of well-being comparisons formulated by the economist-philosopher John Broome, and it demands something like the following. If a given set of individuals has been identified as the only constituency which is of relevance in ascertaining the 'goodness' of a state of affairs, then the 'goodness' of alternative states of affairs should be compared only in terms of the interests of the identified constituency in the states under comparison. When we speak of poverty, it seems eminently reasonable to designate the *poor* population as the only relevant constituency for ascertaining the extent of poverty. And if this is the case, it follows that additions to either the incomes or the size of the non-poor population should be treated as wholly irrelevant information when it comes to making poverty comparisons.

It is easy to see that the headcount ratio, in contrast to the aggregate headcount, violates the Constituency Principle. Here is a simple example. Imagine an initial situation in which we have a two-person society, with the incomes of the two individuals being Rs.1,000 and Rs.3,000 respectively, and with the poverty line set at Rs.2,000. It is clear that the headcount ratio for this society is 50 per cent. Suppose now that a person with an income of Rs.3,000 joins this society. Then, the headcount ratio will decline to 33.33 per cent. With the addition of a third person with an income of Rs.3,000, the headcount ratio will decline further to 25 per cent. Add one more person whose income is Rs.3,000, and the headcount ratio will come down to 20 per cent. And so on. If we simply keep inflating the size of the non-poor population, before long we will be in a position to claim that we have – by measuring poverty in terms of the headcount ratio – almost completely eradicated poverty, even though precisely *nothing* has been done to redress the poverty of the only person who represents the constituency of the poor in the society under review.

So where does this leave us? The headcount ratio H satisfies the Likelihood Principle and violates the Constituency Principle, while the aggregate headcount A satisfies the Constituency Principle and violates the Likelihood Principle. Leaving poverty judgments entirely up to either H or A could be a risky proposition. This suggests the possible wisdom of a 'compromise solution', whereby we look at both H and A, in a bid to avoid the extreme judgment of either principle in isolation. In this note, I only pose the problem, without considering solutions for it, simply in order to underline the fact that the problem has rather serious conceptual and practical implications for the measurement and comparison of poverty.[2]

References:

1. This is a liberal version of the World Bank's poverty line using 1993 as the base year. See Martin Ravallion's contribution to the IPC's *In Focus* issue entitled "Dollar a Day, How Much Does It Say?" (September 2004).

2. See S. Subramanian (2002): 'Counting the Poor: An Elementary Difficulty in the Measurement of Poverty', *Economics and Philosophy*, 18; and S. Chakravarty, S. R. Kanbur and D. Mukherji (2005): 'Population Growth and Poverty Measurement', forthcoming in *Social Choice and Welfare.*