

SECRETARIAT OF THE PACIFIC COMMUNITY

REGIONAL POVERTY ANALYSIS TECHNICAL WORKSHOP

(Noumea, New Caledonia, 22 September 2007)

ADULT EQUIVALENCE SCALES

THE ISSUE

1. The calculation of national poverty lines and the estimation of poverty incidence require that households be assessed according to their level of income/consumption so that it can be determined which households fall below the poverty lines. It is therefore necessary to agree on which assessment method best reflects the relative income/consumption status of the household.

MAIN APPROACHES

2. There are three principal ways in which household income/consumption can be assessed:
3. **Total Household Income/Consumption:** assessing households according to total household income/consumption is the simplest method. However it does not take account of the size of the household such that a single-person household with an income of \$5000 would be ranked as 'worse off' than a ten person household with a total income of \$6000. This clearly does not accurately reflect the fact that the single person household has a much higher individual command over resources and is therefore considerably better-off than each of the individuals in the other household.
4. **Per Capita Household Income/Consumption:** To adjust for the issue of household size the second method would be to use per capita income/consumption. From the previous example the single person household would have a per capita income/consumption of \$5000, while the other household would have a per capita income/consumption of only \$600. This gives a much clearer ranking or assessment of the wealth status of the individuals in the two households.
5. However this method takes no account of whether the persons in the household are adults (>15 years) or children (<15 years); a household of ten adults with an income/consumption of \$6000 would be assessed as having the same level of income/consumption as a household of two adults and eight children under 15 years with the same income.
6. Intuitively, in this situation, a household comprising ten adults would be worse-off than a similar household with many small children. Although children have special needs, particularly perhaps for educational reasons, they eat less and generally need less in the way of other expenditure.

7. **Per Capita Adult Equivalent Income/Consumption:** This can be calculated by the use of adult equivalence scales to estimate the per capita income/expenditure adjusted for the age structure of the household.
8. There are two main ways in which adult equivalent values are estimated. The first, and simpler of the two, is to assume that each child under 15 years is equivalent to 0.5 of an adult. The decision on whether the factor should be 0.5 or any other factor is essentially an arbitrary one, the World Bank¹ notes that the factor might be as high as 0.75 in developed countries and as low as 0.3 in very poor countries. For PICs a factor of 0.5 therefore seems reasonable.
9. In the previous example the household with two adults and eight children would therefore be equivalent to six adults ($2 + (8 \times 0.5)$). Thus the adult equivalent per capita income/consumption of that household would be \$1000, compared with the \$600 of the unadjusted household of ten adults. In income/consumption ranking terms the household with children would be better-off than the household of all adults. This is the method generally recommended by the World Bank.
10. A refinement to this method is to assume also that not only are there are reduced household requirements from the lower needs of children, but that there are also economies of scale in any larger household. The Organisation for Economic Cooperation and Development (OECD)² uses a parametric scale that counts the first adult as “1”, each subsequent adult as “0.7” and each child less than 14 years as “0.5”. In the previous examples this would give an adult equivalence of 7.3 for the household of ten adults ($1 + (9 \times 0.7)$) and 5.7 for the household with the children, ($(1 + 0.7 + (8 \times 0.5))$ assuming that all the children were under 14 years). This is a more complex construction and it is debatable whether the economies of scale for all adults apply in PICs.
11. In the poverty analyses which have been undertaken recently in Tuvalu, Fiji, Solomon Islands and FSM, the per capita adult equivalent income/consumption method of assessing and ranking households has been applied using the first adult equivalence scale of each child being 0.5 of an adult.

RECOMMENDED APPROACH

12. It is recommended that the adult equivalence scale currently being used for the analysis of poverty in PICs be confirmed as the most appropriate. This scale would count each child less than 15 years as half an adult equivalent.

¹ Guidelines for Constructing Consumption Aggregates for Welfare Analysis, LMS Working Paper 135, May 2002

² Compendium of Best Practices in Poverty Measurement, Expert Group on Poverty Statistics, Rio Group 2006