

## NOTES AND COMMENTS

### MEASURING ECONOMIC GROWTH: A REPLY TO ARYA

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Arya (1984) has pointed out a necessary qualification to the use of procedures which we suggested as possible alternatives to the normal GNP measure for measuring overall economic growth (Fell and Greenfield (1983)). Essentially this is that the population size and structure should be identical for the different comparisons made. This is, of course, an assumption that we did make, but it is correct that we did not state it as a necessity. Arya gives examples, using Canadian data, where failure of this condition to hold produces quite strange results when our measures are applied. However, his suggested alternative, of using per capita income categories for judging the distribution of growth does not fully meet our objective either.

Before considering this further, it is worth pointing out a situation in which the condition is fulfilled automatically, namely, where one is modelling the effect of different policies, or budget strategies, for a given population, in order to determine which is best as regards economic growth.

If the objective was to monitor and measure precisely what the effect of particular policies had been, then one would strictly need data for the same households at both points of time, even if some had changed category. In Arya's example for Canada, assessment of the income growth of those in the low income category in 1980 would require including those who had belonged to the category then but had since moved upwards. The need to identify the same persons or households, or nearly so ignoring births and deaths, could arise for many of the possible classifications, besides income itself, that one might want to use in a Social Accounting Matrix (SAM), the context within which we were considering the problem of measuring growth and, in principle, the necessary data are obtainable in household surveys.

Where the less precise or descriptive approach is taken, i.e., simply covering those persons or households who happen to be in the groups of interest at different times—as is done in conventional measures of income distribution such as Gini coefficients—then we feel the following procedure for classifying households would be useful in providing data for our growth index.

Based on data collected from periodical household budget surveys—and such data are necessary in the growing number of countries which are compiling SAMs—calculate the *per capita* income for each household. List all households in order starting with the household with the lowest *per capita* income entered first, and for each household enter the size of the household and the total income.

The first household category will include all households on the list, starting with the first, such that the category contains one-fifth of the population—this is the first quintile (by population not households) and contains households with the lowest *per capita* income. Repeat this procedure for the remaining households. We have now five groups with the same size of population and know each group's total household income. The inverse of the income for each group provides the weights required—this inverse is, of course, also the inverse of the *per capita* income for a group. This procedure eliminates the dangers arising from changing proportions of the population in different income groups. One could of course use adult equivalents rather than treat each person as one unit, if desired.

Mr Arya states that we have failed to visualize the proper framework in which we are working. This is not so, or so we believe. We recognize that money income is not a completely adequate measure of a person's well-being, since it omits, among other things, leisure. We recognize the imponderable problems in trying to measure utility and especially the interpersonal comparisons of utility. However, in various countries, some re-distribution of income towards the poorer sections of the community is often a defined political objective. Given this objective some method or methods seems necessary for measuring whether the objective has been obtained, and the measure, if possible, should be reasonably simple and easy to understand. We believe the method we suggest meets these criteria, but we acknowledge that it nevertheless has imperfections and further studies may well reveal better measures.

#### REFERENCES

- Arya, P. L. (1984), Measuring Economic Growth—a Critique of the Views of Fell and Greenfield, *Review of Income and Wealth*, 30 (3), 377-382  
Fell, H. A. and Greenfield, C. C. (1983), Measuring Economic Growth, *Review of Income and Wealth*, 29 (2), 205-208.