

Title: *Alternative Approaches to Measuring Temporal Changes in Poverty with Application to India*

Author(s): Dipankor Coondoo; Amita Majumder; Geoffrey Lancaster; Ranjan Ray

Institution/Country: Indian Statistical Institute; Indian Statistical Institute; University of Tasmania; University of Tasmania

This paper uses a new procedure suggested in Coondoo et al. (2004) for setting and updating the poverty line to take account of inflation and changing tastes. The procedure, which is based on the estimation of nutrient prices, takes an “absolute” view of poverty that is rooted in the idea of age and gender specific minimum calorie requirements to be obtained from a “balanced” diet of nutrients. This study goes beyond recent investigations on the link between calorie and food expenditure by working in nutrient space and enforcing the idea of a “balanced diet” of the principal energy generating nutrients that would not be possible by focussing on calorie alone. Moreover, the proposed procedure of using estimated nutrient price indices to calculate cost of living indices provides a novel way of overcoming the problem of item comparability, definitions, missing items, etc. that affect the traditional cost of living indices based on food items.

Household level data from the individual states in India are used to calculate and compare alternative poverty rates over a time period that includes the period of recent economic reforms. The application to Indian data makes it particularly interesting given the regional heterogeneity in food expenditure patterns. Also, since the study covers the period of recent economic reforms in India, the results on the temporal movement in the state wise poverty rates are of considerable policy interest. The poverty rates obtained from the application of the nutrient price based new procedure are compared not only with the official poverty rates but also with those obtained from a constrained minimisation of food expenditure that yields the “shadow price” of nutrients. In several cases, the official poverty figures seem to understate poverty compared to those obtained from calorie/nutrient norms. Moreover, while the official poverty rates generally show declining poverty in India during the decade of the ‘90s, this is not true of the alternative poverty estimates.

A significant by product of this study is that we have proposed and implemented a new procedure for constructing spatial price indices, based on the application of the multi lateral EKS index to the estimated nutrient prices. The paper exploits the attractive property of circular consistency of the EKS index in calculating the spatial nutrient price index over the sixteen major States of the Indian Union. The estimated values are used to rank the States with respect to their nutrient prices. These are then compared with those obtained from the unit value of the Food items, both with respect to their individual magnitudes and their temporal movement, at the State level.

The results of this study on Indian data suggest that these procedures have considerable potential for future applications on international data sets.