

Refinements in the Official Poverty Estimation Methodology

This set of procedures corresponds to the refinements in the official poverty estimation methodology, particularly in generating the food and poverty thresholds for years when the Family Income and Expenditure Survey (FIES) is conducted.

I. Estimation of the Annual Per Capita Food Threshold

The estimation of the **annual per capita food threshold** starts with the costing of the **provincial food bundles**. These provincial food bundles were developed based on an indicative nationally-representative food bundle formulated by nutritionists from the Food and Nutrition Research Institute and were subjected to the Test of Revealed Preferences such that the food bundle of a province will be the cheapest in comparison with the bundles of other provinces. It has the following characteristics:

- Nutritionally adequate, that is, it satisfies the 100% Recommended Energy and Nutrient Intakes (RENI) for energy and protein and 80% RENI for vitamins and minerals;
- Food items in the food bundle are locally available and low cost;
- Least cost¹;
- “Visualizable”; and
- Edible

The cost of each provincial food bundle is estimated using the actual prices collected by the Bureau of Agricultural Statistics (BAS) for agricultural commodities and the National Statistics Office (NSO) for non-agricultural food items. The daily cost of the food bundle is then multiplied by 30.4 days (the average number of days in a month) and 12 months to come up with the Annual Per Capita Food Threshold.

II. Estimation of the Poverty Threshold

The poverty threshold shall still be indirectly estimated as follows:

$$PT_{(\text{per capita})} = \left(\frac{FT}{FE/TBE} \right)$$

where:

$PT_{(\text{per capita})}$ = Annual Per Capita Poverty Threshold
FE = actual food expenditure of families within the +/- ten percentile of the food threshold
TBE = total basic expenditure of families within the +/- ten percentile of the food threshold.
TBE is an aggregate of expenditures on:

- food;
- clothing and footwear;
- fuel, light and water;
- housing maintenance and other minor repairs;
- rental of occupied dwelling units;
- medical care;
- education;
- transportation and communications;
- non-durable furnishing;
- household operations; and
- personal care and effects

¹ Provincial food bundle passed the Test of Revealed Preference

However, instead of generating the FE/TBE ratio every FIES year, the average of the nationally determined FE/TBE ratio from the 2000, 2003, 2006 and 2009 FIES shall be used for twelve (12) years starting 2009 to ensure consistency across space and over time. This is equivalent to **0.6984**.

III. Estimation of Incidence and Other Measures of Poverty

Poverty Estimates, which include:

- a. Subsistence Incidence (families and population);
- b. Poverty Incidence (families and population);
- c. Magnitude of Food Poor (families and population);
- d. Magnitude of Poor (families and population);
- e. Income Gap;
- f. Poverty Gap; and
- g. Severity of Poverty

Shall be generated and released at the national, regional and provincial levels as well as for the eight basic sectors as stipulated in NSCB Resolution No 11, Series of 2007, *Approving the Methodology for the Generation of Poverty Statistics for the Basic Sectors*.

Further, measures of error such as confidence interval and coefficient of variations shall be released including a graph of the confidence intervals to better illustrate the possible overlap, which will guide the users in utilizing these estimates.

In addition, ranking of provinces shall not be released due to overlapping of confidence intervals. A clustering of provinces based on the poverty measures, such as poverty incidence and magnitude of poor, shall be done instead.

IV. Revision Policy

The review of the official poverty estimation methodology shall be undertaken by the Technical Committee on Poverty Statistics every 10 years. In case of revision, the NSCB shall release at least three data points to ensure that analysis of trends can still be done.

V. Computation of Back Estimates

For this revision of the methodology, the NSCB official poverty statistics for years 1991, 2003, 2006 and 2009 were released following the practice among statistical offices of releasing back estimates whenever improvements/changes in the methodology is adopted and specifically for 1991 to ensure poverty analysis for the monitoring of the Millennium Development Goals (MDG).

However, it should be noted that to facilitate the computation of food thresholds for years 1991, 2003 and 2006, these will be estimated by deflating the 2009 food thresholds using regional Consumer Price Index for Food. Estimation of the other poverty statistics shall follow the same methodology as stipulated in this document.

VI. Estimation of the Subsistence Incidence and the Magnitude of Food Poor

The estimated Annual Per Capita Food Threshold for each province, urban-rural, is then compared with the annual per capita income of the families in the FIES. Families are then classified as food/subsistence poor if the annual per capita income is below the annual per capita food threshold. Subsistence incidences among families/individuals are then computed by counting the number of families/individuals tagged as food poor divided by the total number of families/population, that is:

$$S = \left(\frac{F}{n} \right) * 100$$

where S = subsistence incidence

F = total number of families/individuals with annual per capita income below the annual per capita food threshold

n = total number of families/individuals

VII. Estimation of the Poverty Incidence and the Magnitude of Poor

$$P = \frac{Q}{n} * 100$$

where:

P = poverty incidence

Q = number of families (individuals) with per capita annual income less than the per capita poverty threshold/line

n = total number of families (individuals)

VIII. Estimation of Other Foster Greer Thorbecke (FGT) Measures

$$I = \frac{1}{q} \sum_{i=1}^q \left(\frac{Z - X_i}{Z} \right)$$

where:

I = income gap

Z = per capita poverty threshold/line

X_i = per capita income of the ith family

q = number of families below the poverty threshold

$$PG = \frac{1}{n} \sum_{i=1}^q \left(\frac{Z - X_i}{Z} \right)$$

where:

PG = poverty gap

Z = per capita poverty threshold/line

X_i = per capita income of the ith family

q = number of families below the poverty threshold

n = total number of families

$$SP = \frac{1}{q} \sum_{i=1}^q \left(\frac{Z - X_i}{Z} \right)^2$$

where:

SP = severity of poverty

Z = per capita poverty threshold/line

X_i = per capita income of the ith family

q = number of families below the poverty threshold

n = total number of families