Poverty Lines and Poverty Rates

Goal

In order to get any measure of poverty, it is essential to make some assumptions concerning the criteria based on which to define poverty. The approach used by LIS (and most commonly adopted in the literature), is that of creating a relative poverty line based on the level and distribution of household disposable (equivalised) income in the total population. Households are classified as poor or non-poor on the basis of whether their income is lower or higher than the relative poverty line.

Once poor households are identified, you can create an indicator to help identify the proportion of poor households (or individuals) and to measure the level of poverty. The choice of indicator used will mainly depend on the purpose of the research. In this exercise, we will calculate the main indicator of poverty incidence, the head count ratio, and the income gap ratio (an important indicator of poverty intensity).

Activity

Using the 2000 Finnish data, run the same data cleaning procedures and create the equivalence scale introduced in the previous exercise. Define the poverty line as 50% of the median equivalised income. Calculate the head count ratio (defined as the percentage of individuals living in poor households) and the income gap ratio (as explained in the guidelines).

Guidelines

➢ To know if a household is below (a certain percentage of) the median equivalised disposable income, we need to calculate this median, and match it back to each household record. This is complex to achieve in SPSS, and therefore LIS created a routine that does this for you. You can call the routine in the following way :

```
include file = 'i:\match-medianey.sps'.
```

For the poverty line, create a new variable *povline* equal to 50% of the median equivalised income:

```
compute povline = 0.5 * <median_equivalised_income> .
```

➢ Again, be careful when choosing weights: use *hweight* if you want to measure household poverty, and *hweight*d4* if you are interested in individual poverty.

➢ The Head Count Ratio (HCR) is the percentage of poor individuals in the total population. When you create a dummy variable indicating that an individual is poor (**poor** = 0 or =1), then the mean of the indicator variable (properly weighted) will be the percentage of poor individuals.

➢ The Income Gap is the difference between income and the poverty line. The Income Gap Ratio (IGR) is the average income gap as a percentage of the poverty line. In this exercise it

is probably the simplest to determine the ICR by using a calculator while using the results from IG and poverty line.

Program

```
title "** INCOME DISTRIBUTION I - Exercise 10 **" .


get file = fi00h /keep = hweight d4 d5 dpi .
select if dpi ne 0 .
select if d5 ne 3 .
compute ey = dpi/(d4**0.5) .
compute wt = hweight*d4 .
weight by wt .
frequencies variables = ey
   / statistics = median
   / format = notable.
include file = 'i:\match-medianey.sps'.
compute povline = medianey * 0.5 .
descriptives variables = povline .
compute poor = 0 .
if ey lt povline poor = 1 .
if ey lt povline gap = povline-ey .
frequencies variables = poor .
descriptives variables = gap .
weight OFF .
frequencies variables = poor .
```

Results

Median equivalised income	*96 332*
Poverty line	*96,332 / 2 = 48,166*
How many poor households are in the sample?	*588*
How many poor individuals are there in the total population?	*277 263*
Head Count Ratio	*5.43%*
What is the average income gap among poor individuals?	*12 317*
Income Gap Ratio	*12,317 / 48,166 = 25.57%*

Comments

➤ The head count ratio (HCR) measures poverty incidence (i.e., the number or proportion of poor people), but gives every person equal weight no matter how far they fall from the poverty line.

➤ The Income Gap Ratio (IGR) measures poverty intensity or depth (how poor are the poor), but one poor person with an income of an amount x counts the same as two poor people each with an income of x/2. That is, the IGR measures the average income gap, but not its distribution among the poor).

➤ Only two indicators of poverty are mentioned here, but there are several others. These include, among the most common, the whole family of Foster-Greer-Thorbecke indicators (of which the HCR is only one), the Sen index, the Takayama index, the Clark index, and the Thon index. It is important to note that a country may score better in comparison to a second country when using a particular index, but could score worse if another index was used instead.