

**Public Policy 253 - Agricultural and Resource Economics 253**  
**Fall 2004**

**Poverty Targeting for Transfer Scheme in Mexico**  
**Homework Assignment #3**  
**Due on Wednesday October 27, in class**

Suppose that you want to organize a transfer program to the rural poor in Mexico. A precise targeting would require a detailed consumption survey similar to the an LSMS or the survey done for the PROGRESA evaluation to establish the poverty status of every single household. Alternatively some programs, such as PROGRESA use a welfare index based on a few easily observable correlates of poverty. In this assignment we will establish such an index for the rural population of Mexico, and use it to define a targeting scheme.

The data that has been prepared for you (PPprogresahh.dta) give information for 10726 households from the evaluation sample for PROGRESA.

**I. Determining a welfare index**

To establish a welfare index for rural Mexico, estimate consumption per capita on a few selected indicators of dwelling quality, head of household characteristics, household demographic characteristics, and regional characteristics. Note that you are looking for correlates of consumption per capita, not determinants, and hence those indicators can be endogenous. However, we want correlates that are easily observable (with a light survey) and cannot easily be manipulated by the household (otherwise, when household would know the formula, they could easily get themselves classified as poor to receive the transfer).

**II. Define the threshold of eligibility**

Compute the predicted welfare index for all the households. Using the poverty line as a threshold, use the predicted welfare index to classify households as eligible and non-eligible for the transfer. Compute errors of Type I and Type II. Comment on your results, in terms of using them for a transfer scheme.

Explore the trade-off between error of exclusion and error of inclusion as you vary the threshold of eligibility.

Choose a threshold that lead to an error of exclusion of less that 25%. What is the corresponding leakage cost (non-poor included as eligible)?

**III. True welfare distribution of eligible and non-eligible**

Draw the density function of the true consumption per capita of the two groups (eligible and non-eligible) of households. Place them on the same graph, and add the poverty line.

Comments: Are the excluded poor mostly extreme poor, or are there many close to the poverty line? Are the eligible non-poor very rich people or mostly household barely above the poverty line?

Compare the characteristics of the non-eligible poor and the eligible non-poor. Comment your findings.

**IV. Explore targeting on household with children**

Alternative schemes are to target on households with small children, or on households with a large number of children.

Explore those two schemes and compare them with the welfare index targeting.