# Day 2: Multidimensional Poverty

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## Multidimensional Poverty Index

Using the data set `casen_day3.dta`, complete all parts of the following exercises:

1. Following the descriptions of the reference populations and deprivation cutoffs, generate the following indicators:

   (a) **Education**

   i. ***Years of schooling***
   - Reference population: requirements are defined by law for each cohort that is affected by legislative changes, considering 2017 as the reference year (1920 to 1929: 4 years ; 1930 to 1965: 6 years ; 1966 to 2002: 8 years ; 2003 and afterwards: 12 years).
   - Deprivation cutoffs: households which at least one of their members of the reference population who has attained fewer years of studies.

   ii. ***School attendance***
   - Reference population: people between 4 and 18 years, also including those between 6 and 26 years old who are in a situation of disability.
   - Deprivation cutoffs: households which at least one of their members of the reference population does not attend school.

   (b) **Health**

   i. ***Nutrition***
   - Reference population: any person under 70 years of age.
   - Deprivation cutoffs: households which at least one of their members of the reference population undernourished, at risk of undernourished, overweight or obesity.

   ii. ***Affiliation to the Health System***
   - Reference population: everyone.
   - Deprivation cutoffs: households in which at least one member not affiliated to the health system.

   (c) **Labor and social security**

   i. ***Employment***
   - Reference population: anyone over 18 years.
   - Deprivation cutoffs: households in which at least one member is unemployed.

   (d) **Housing**

   i. ***Drinking water***
   - Reference population: everyone.
   - Deprivation cutoffs: households with no availability of drinking water.

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    ii. ***Environment***

- Reference population: everyone.
- Deprivation cutoffs: households residing in an environment with at least 2 pollution problems.

2. What is the percentage of people deprived in each dimension? How are these percentages in rural and urban areas? Which dimensions present the highest levels of deprivation?

3. Build a chart bar to show the comparison of the deprivation headcount ratios between rural and urban areas.

4. Calculate and compare the multidimensional poverty with a K=25% threshold for:

   (a) **Total population, urban area, and rural area.**

   (b) **Male and female headed households.**

5. Calculate the incidence and intensity of multidimensional poverty with a K=25% threshold.