

## **A population census based on registers and a "10% survey". Methodological challenges and conclusions.**

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The population and housing census 2011 in Spain has followed a new approach. Instead of an exhaustive door-to-door enumeration of the population, it has been conceived as a combination of two elements: registers and survey. The overall cost of the census, 85 million euros, is 20% the one of a classical census. We can benefit from the existence of a Population Register of high quality in Spain. Taking this register as its backbone, a *census file* was created using all the available administrative registers (tax collection agency, social security, vital statistics...). These registers were used to provide, for every person, a measure of *proof of residence*. But some 2.2% of the population remained as being of *doubtful residence* in the registers, because that there was no sufficient evidence in registers to count them. These people were grouped into homogeneous clusters (region, sex, age, citizenship...) and were counted in the census using weights (called *count factors*) obtained from the survey. This survey was actually the second element of the census. It consisted on a fieldwork operation including a classical building census, that enabled geo-referencing every building, and a sampling survey addressed to 10% of the population, in order not only to get those weights but also, and mainly, to provide characteristics of persons and dwellings. This "10% survey" was collected using a sequential multichannel method, thus promoting the Internet as first option (39% of questionnaires were collected through this channel). Eventually, the census, as a product, is the mixture of two components: a *weighted census file* containing around 47 million registers but only with a few variables for every person (those contained in the population register) and a file containing many variables, the ones collected in the questionnaires, but only for 4.2 million people. This system has similarities with censuses based in long and short forms. But providing consistency between detailed data coming from the survey and the main figures coming from the weighted census file has also proved to be a challenge. Some inconsistencies show up and consequently, more than ever, the dissemination and explanation to users becomes crucial.

**Key Words:** administrative registers, multi-channel surveys, population register.