Better Targeting of Social Programs Based on Statistical Evidence: an Experimental Approach

José L. Cervera-Ferri
Devstat, Valencia, Spain jcervera@devstat.com

Penélope Hernández
University of Valencia – Erices, Valencia, Spain penelope.hernandez@uv.es

José E. Vila*
University of Valencia – Erices and Devstat, Valencia, Spain jose.e.vila@uv.es

Dissemination is considered to be a crucial component of the quality of official statistics. The frame in which statistical information is presented to decision-makers has a critical impact in the output and quality of the decision process, and accordingly in the outcome of public policies. This impact is a consequence of the bounded rationality and perception bias of such decision makers. In this paper, we analyze how the different common formats used to disseminate statistical information (in particular social statistics) do actually affect the quality of decision-making based on this information. To this end, and following an experimental approach, a sample of subjects who are actual users of official statistics for the design, monitoring or evaluation of social policies, participates in an on-line incentivized experiment. In the experiment, subjects are asked to establish the target population of a social programme by specifying its coverage (number of beneficiaries to be covered). Subjects obtain a payoff depending on the difference of the chosen coverage and the actual size of eligible population, which is unknown. The different treatments of the experiment consist of alternative presentations (frames) of information related to this unknown distribution of eligible beneficiaries. These frames are selected from common presentation formats, both numeric and graphic, used for the dissemination of official statistics. To complete the analysis, the coverage levels stated during the experiment are compared with those that would be elicited by completely rational decision-makers incentivized by optimal Bayesian scoring rules. The experimental analysis carried out in the paper helps provide empirical evidence on how the way official statistics are disseminated is a key dimension of the quality of the statistical output (since it conditions the quality of the decision-making supported by this information) and establishes a series of good practices to improve the design of dissemination products by national statistical offices and other information providers.

Key words: Evidence-based decision making, social policy, behavioral experiments, Bayesian scoring rules