

A joint best-worst scaling and stated choice model considering observed and unobserved heterogeneity an application to residential location choice

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Abstract

Traditional stated choice (SC) experiments are the most widely used method for measuring individual preferences. Notwithstanding, the issue of differentiating between the impacts of the attributes per se vs. the impact of the attribute levels shown in the experiment has been something of a challenge for researchers. Recent studies suggest that Best–Worst scaling (B–W) experiments would allow for the possibility of making this discrimination. In this study we combine B–W data with more traditional SC data to model the choice of residential location; we also allow for observed and unobserved heterogeneity in the combined models. To the best of our knowledge, this type of data fusion has not been used before in this context. Our dataset is fairly unique and corresponds to a sample of individuals interested in acquiring a flat in the centre of Santiago, Chile, from whom both types of responses were elicited. In addition, we have available a larger independent validation sample that responded to a second SC exercise in the same location and time period. We found that the best-fit model corresponded to pooling the ‘best’ and SC responses (i.e., ignoring the ‘worst’ data), while accounting for systematic taste variations (observable heterogeneity) and allowing for a correct treatment of the pseudo-panel nature of the data through error components (unobserved heterogeneity). Our results imply that analysts could get valuable additional information to increase their understanding on individuals’ behaviour when considering the joint use of B–W Scaling and SC data incorporating heterogeneity.