

In the Discrete Choice Experiment, the individual farmers i indirect utility function (V_i) is represented by an additive linear expression:

$$V_{ij} = \alpha_j + S_{ij} \bar{\beta} + S_{ij} \theta_i + \varepsilon_{ij} \quad (S1)$$

where S_{ij} is the vector of the DCE attributes described in material and methods section, θ_i represents the deviations on individual preferences with respect to the mean values, and ε_{ij} is an i.i.d. type I extreme value random component. Coefficients β vary in the population with density $f(\beta|\Omega)$, with Ω denoting the parameters of density, i.e. $\beta_i = \bar{\beta} + \theta_i$. The probability of farmers i's observed sequence of choices $[y_1, y_2, \dots, y_T]$, assuming unitary scale parameters, is calculated by the integral:

$$P_i[y_1, y_2, \dots, y_T] = \int \dots \int \prod_{t=1}^T \left[\frac{e^{(\alpha_j + S_{ij} \beta_i)}}{\sum_{k=1}^J e^{(\alpha_k + S_{ik} \beta_i)}} \right] f(\beta | \Omega) d\beta \quad (S2)$$

where j is the alternative chosen in choice occasion t.

For getting a more detailed analysis of heterogeneity among farmers, a Latent Class Model (LCM) is generated. Individual's preferences are represented by $\beta_i = \bar{\beta} + \theta_i$, but in this case the distribution $f(\beta)$ is discrete, with $\bar{\beta}$ taking a finite number of classes ($k=1, \dots, K$), so β_{ik} follows a distribution with density $f(\beta)$ for each class k. Therefore, the probability of individual observed sequence of choices $[y_1, \dots, y_T]$ is simulated, as it follows:

$$P_i[y_1, \dots, y_T] = \sum_{k=1}^K F_{ik} \frac{1}{R} \sum_{r=1}^R \left[\prod_{t=1}^T \frac{e(\cdot)}{\sum_{h=1}^J e(\cdot)} \right] \quad (S3)$$

From the observed choices, individuals' preferences are transformed into willingness to pay (WTP) for the attributes. The WTP for each level k of the attribute j (excluding the reference level, which is assuming to be zero) is estimated using the formula:

$$WTP_k^j = - \frac{\beta_k^j}{\beta_{cost}} \quad (S4)$$