**Online Appendix: Latent class model**

The logic of LCM is to classify individuals based on their response patterns on explicit variables. It is often used to find groups or subtypes (latent classes) in multivariate categorical data. A latent class is characterized by a pattern of conditional probabilities that indicates the chance that variables will take on certain values. Specifically, it finds a set of groups with common features from the eigenvalues of the joint distribution of categorical explicit variables (observed variables), the probability of each set, and the conditional probability of the explicit variables of each set that can be derived from it. Therefore, in its general form, the LCM is often referred to as the probability model.

In this study there are three political orientation explicit variables—support for freedom (*A*, two classifications), government satisfaction (*B*, two classifications), and political voting (*C*, two classifications). Assuming that the latent variable hidden behind the three variables is *X*, then an unconditionally constrained

LCM can be expressed in the following form:

$$π\_{xabc}=π\_{x}π\_{a|x}π\_{b|x}π\_{c|x}$$

where $π\_{x} $is the latent class probability, that is, the probability of each category of latent variables, and the three conditional probabilities, $π\_{a|x}$,$π\_{b|x}$,$ π\_{c|x}$, are called conditional response probabilities. For any observed variable (*A*, *B*, *C*), its conditional probability under a given latent class *x* can be obtained by estimating the parameters of the log-linear saturation model (i.e., the conditional probability is considered to be a function of log-linear model parameters).

In the analysis process, we first discover the latent classes behind the characteristics and distribution of the three explicit variables, determine the optimal number of latent classes, the meaning of each class according to the model-fitting condition, and then expand the relationship between the variables.