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SEMINARIO

Small area estimation of labour indicators under area-level Dirichlet mixed models

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We propose an area-level Dirichlet mixed model for predicting compositional indicators in small areas. The model focuses on the direct estimators of domain-specific category proportions from a classification variable as the primary target parameters. After selecting and fitting the model to the data, predictions for small-area proportions, totals, and rates are derived, and their mean squared errors are estimated using a parametric bootstrap approach. A series of simulation studies is conducted to evaluate the performance of the fitting algorithm, the small-area predictors, and the bootstrap method. The methodology is illustrated with an application to data from the Spanish Labour Force Survey for the fourth quarter of 2022, aiming to estimate provincial proportions of employed, unemployed, and inactive individuals, as well as unemployment rates, disaggregated by sex and age group.

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Online: [Ponencia Catedrático Domingo Morales \(UMH\): Small area estimation of labour indicators under area-level Dirichlet mixed models | Reunión-Unirse | Microsoft Teams](#)