Estimating inequality at local level in Italy.

Stefano Marchetti
University of Pisa, Pisa, Italy stefano.marchetti@ec.unipi.it

Available data to compute inequality indicators in Italy come mainly from sample surveys, such as the Survey on Income and Living Conditions (EU-SILC). However, these data can be used to produce accurate estimates only at national or regional level (NUTS 2 level). To obtain estimates referring to smaller unplanned domains small area methodologies can be used. In this work I propose a smearing type estimator for the Gini coefficient and the Theil index to obtain estimates in the Provinces of the Tuscany Region (LAU 1 level). The proposed estimators are based on the M-quantile models, which do not impose strong distributional assumptions and are outlier robust. The use of these models for poverty and inequality estimation may protect against departures from assumptions of the traditional unit-level nested error regression model for small area estimation.
In this work I also propose a model-based simulation to show the performance of the proposed estimators. Moreover, some advices on bootstrap estimation of mean squared error are given.

Key Words: Small Area, M-quantile, Robust Estimator