

Discussion on



Targeting policy-compliers with machine learning:
an application to a tax rebate programme in Italy

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Paper

Use Machine Learning algorithms to predict the policy-compliers to the Italian 80 euro tax rebate program.

A classification tree (CT) able to predict the compliers (a priori defined) has been estimated on the SHIW data 2010 and 2012.

Households predicted by CT as compliers on the SHIW 2014 data seem to show a more significant effect on (food) expenditure.

What I like



Paper

interesting, complete, well written.



Central idea

a different way to investigate the (heterogeneous) effect of a policy.



Machine learning

does it work? Let's try and compare.

What I do not like



LPM instead of Logit (or Probit)

Suggestions/Questions

- Look at the LPM (or Logit, or Probit) continuous output as a way to build a “model-based” composite indicator.
- LPM (or Logit, or Probit) performance could be improved by using spline transformations of the regressors.
- Use `OptimalCutpoints` (R-package) to choose the probability cutpoint (0.5 in the paper) to predict a household as needy. The best would be to implement a cost-benefit analysis.
- Is it possible to make an unsupervised (mixture models) rather than a supervised classification?