

Using Machine Learning to Predict Tax Behaviour

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We apply machine learning techniques to predict a particular tax behavior which can be defined as induced non-compliance.

In the Italian system, small self-employed workers and sole proprietorships know the value of turnover which the tax authority presumes they should report, and know that the probability to be audited is lower if their reported turnover is at least as high as this presumptive value.

This institutional framework clearly creates a strong incentive for taxpayers to report exactly the presumptive value, i.e. to bunch at it from above.

We show that a relatively simple decision tree can provide a robust and easy-to-implement prediction algorithm of this behavior, allowing the Revenue Agency to use ex-ante preventive policies rather than ex-post repressive ones.