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Counting Rotten Apples: Student Achievement and Score Manipulation in Italian Elementary Schools*

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Abstract

We derive bounds on the distribution of math and language scores of elementary school students in Italy correcting for pervasive manipulation. A natural experiment that randomly assigns external monitors to schools is used to deal with endogeneity of manipulation, as well as its mismeasurement in the data. Bounds are obtained from properties of the statistical model used to detect classes with manipulated scores, and from restrictions on the relationship between manipulation and true scores. Our results show that regional rankings by academic performance are reversed once manipulation is taken into account.

JEL classification: C14; C31; C81; I21; J24.

Keywords: Measurement error; Non-parametric bounds; Partial identification; Score manipulation.

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