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Hongliang Zhang

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Identification of Treatment Effects under Imperfect Matching: with an
Application to Chinese Elite Schools*

Hongliang Zhang[†]

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Abstract

This paper extends the local average treatment effects (LATE) framework for causal inference to contexts in which the instrument appears in a data set that can only be linked imperfectly to the treatment and outcome variables contained in another data set. To overcome this problem, I form all pairwise links between information on the instrument and information on the treatment and outcome matched by the commonly recorded personal characteristics in both data sets. I show how these imperfect conditional matches can be used to identify both the average and distributional treatment effects for compliers of the common units of the two data sets. This multiple data source approach is then applied to analyze the impact of attending an elite middle school in a Chinese city where schools' admissions lottery records can only be linked imperfectly to the administrative student records at middle school exit.

Keywords: local average treatment effects, distributional treatment effects, imperfect matching, elite schools, student achievement

JEL Classifications: C26 C81 I21 I28

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[†]E-mail: hongliang@cuhk.edu.hk/ address: Department of Economics, The Chinese University of Hong Kong, Shatin, Hong Kong SAR.

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