

# A Robust Redesign of High School Match

[Extended Abstract]

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## ABSTRACT

Many school districts allow students to report their preference rankings over schools and assign as many students as possible to their reported favorite schools. However, this well-intended assignment policy, known as the Boston mechanism, creates incentives for students to misreport their true preferences. I consider the problem of estimating students' preference parameters with reported rankings under this policy.

The challenge is that researcher does not observe who misreports and how. Previous literature has made strong assumptions about the who and the how. In this paper I relax these assumptions and propose a method to estimate preference parameters under the weaker assumptions. My identifying assumptions are that 1) students may have incorrect beliefs about their assignment probabilities as long as they correctly predict to which one of any given two schools they would have lower assignment probability; and 2) when deciding which ranking to report, students adhere to a simple rule: *do not put a school on your ranking unless you prefer it to higher-probability ones*. The ranking strategies that the previous literature has considered are special cases of the simple rule. I construct moment inequalities that partially identify the preference parameters and propose an estimator of a confidence region of the parameters. Finally, I apply the method to data from Seoul, Korea to compare the efficiency and inequity of the Boston mechanism with Deferred Acceptance, an alternative assignment policy without incentives to misreport. I find that the estimated bounds on the parameters are informative. Counterfactual simulations show that the Boston mechanism is more efficient than Deferred Acceptance, but it also penalizes students who naïvely report their true preferences.

## Categories and Subject Descriptors

D47. Market Design [C57. Econometrics of Games and Auctions]: D61. Allocative Efficiency, cost-benefit analysis

## General Terms

Structural Estimation

## Keywords

School choice, Boston Mechanism, Deferred Acceptance, demand estimation, partially identified model