Problem Set 5
Regression Discontinuity Design


The Effect of Class Size on Test Scores

a) Plot class size against total enrollment in school. Plot math scores on total enrollment in school. Interpret the figures and explain the Maimonides’ rule.

b) Estimate an OLS regression of math scores on class size and the percent of disadvantaged students (tipuach). What is the estimated effect of class size? Add enrollment and enrollment squared. How does the estimated effect of class size change? Why might the effect of class size be biased?

c) Estimate a 2SLS regression by using the hypothetical class size implied by Maimonides’ rule (func1) as an instrument for actual class size. How does the coefficient change compared to OLS? Check out specifications with different polynomials in enroll.

d) Perform the 2SLS regression in c) on the discontinuity sample (+/-5 from the respective cut-off) and interpret the results.

e) Calculate the Local Wald Estimator using local polynomial regression.

f) The validity of RDD depends on the assumption that other variables do not jump at the cutoff. Check whether this assumption is met for the tipuach variable, i.e. the percent of disadvantaged students in class.