EXAMINATION QUESTION PAPER - Take-home examination

DRE 70061
Panel Data/Microeconometrics

Department of Economics

Start date:	11.05.2015	Time 09.00
Finish date:	12.05.2015	Time 15.00

Weight:	100% of DRE 7006
Total no. of pages:	3 incl. front page
No. of attachments to question paper:	0
To be answered:	Individually

Answer paper size:	No limit incl. attachments
Max no. answer paper attachment files	0

The exam paper must also include a table of contents, a summary at the beginning and a bibliography/reference list at the conclusion of the paper. These pages are counted separately from the main paper. You will find a thorough explanation of how to use quotes and references on the BI library webpage: www.bi.edu/library/training-and-support/citations-and-references.

Exam DRE 70061 Panel Data/Microeconometrics – Spring 2015

In an influential study of the U.S. House of Representatives, Lee, Moretti and Butler (2004)[1] find that voters primarily “elect policies”, i.e. voters affect policies by choosing between candidates with relatively fixed policy positions. They find no evidence that electoral competition induce candidates to adopt positions closer to the median voter (which would imply that voters also “affect policies”).

To measure candidate’s position, Lee et al. rely primarily on a voting score provided by the political organization Americans for Democratic Action (ADA). For each Congress, the ADA chooses about twenty high-profile roll-call votes, and creates an index that varies between 0 and 100 for each Representative of the House. Higher scores correspond to a more "liberal" voting record.

A similar (but not identical) data set to the one applied by Lee et al. (2004), can be found at it’s learning entitled EXAM.dta. The variables included are:

- state: U.S. state
- id2: electoral district
- year: election year
- score : a representative’s ADA score
- lagscore: lagged value of score
- democrat: dummy=1 if representative from democratic party, 0 otherwise
- lagdemocrat: lagged value of democrat
- demvoteshare: the democratic vote share in the last election
- lagdemvoteshare: lagged value of demvoteshare
- north: dummy=1 if state is located in the north, 0 otherwise
- south: dummy=1 if state is located in the south, 0 otherwise
- west: dummy=1 if state is located in the west, 0 otherwise
- income: real income in district
- high_school: percentage with high-school degree
- black: percentage black
- eligible: percentage eligible to vote
- votingpop: voting population

[1] Lee, David S., Enrico Moretti, and Matthew J. Butler. "Do voters affect or elect policies? Evidence from the US House." The Quarterly Journal of Economics (2004): 807-859.

a) Make a scatterplot relating ADA scores to the democratic vote share. By visual inspection of this plot, is there any evidence in the raw data that party affiliation matters for the voting record? Create kernel density plots of ADA scores for Democrats and Republicans. Comment on the degree of overlap.
b) Explain how a regression adjustment approach can be used to test that party affiliation matters for the voting record of the representative. Implement such a regression adjustment approach. Discuss strength and weaknesses, and compare with the Regression Discontinuity (RD) design exploiting close elections.
c) Implement the simplest possible RD estimator. Report the RD estimate and the corresponding 95% confidence interval. Interpret the results.
d) Make four basic RD plots where you use all the data, but vary the order of the polynomial in the control function (first, second, third, and fourth order). Discuss your findings.
e) Choose one of the four specifications in (d), justify your choice, and calculate point estimates and corresponding 95% confidence intervals for a large set of bandwidths (or a continuum of bandwidths). Present point estimates and confidence intervals in a figure. Discuss.
f) Estimate the party incumbency advantage (i.e. whether the party that already holds a seat holds an electoral advantage in the next election). Present RD estimates of the effect of winning the previous election on the share of votes in the next election, as well as RD estimates of the effect of winning the previous election on the probability of winning the next election. How do you interpret the average treatment effect of incumbency?
g) Use observed district characteristics to critically assess the validity of the preceding RD analysis.
h) Some scholars have argued that in the U.S. House of Representatives, Democrats are much more likely to barely win seats they won last time than to barely lose them, and Republicans have the same advantage in their seats. Investigate whether there is any evidence in the current data set supporting this conjecture. Discuss.