



**Economic Research
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ERSA Workshop on Spatial Regression Discontinuity

Presented by:

Jeremy Magruder, Assistant Professor, University of California-Berkeley

Location:

ERSA Computer Lab, University of Stellenbosch

Dates:

March 4-5, 2010

Background:

Jeremy Magruder is a recent PhD graduate from Yale University, who has worked extensively on South African research questions. During his PhD studies, he spent time at the University of Cape Town.

Course Prerequisites:

All attendees are expected to have a background in Econometrics, which should include knowledge of instrumental variables and basic panel regression modelling, preferably up to the level of Greene or Wooldridge. Formally, no previous knowledge of Regression Discontinuity Design is required, although participants are invited to review the 2008 “special issue” related to RD published in the *Journal of Econometrics*. Thomas Cook’s history of RD is rather interesting, while a large number of applications are discussed in this particular special issue.

Course Description:

The following outlines potential material to be covered in the two days.

Part I: Theory of RD

This will cover theory and applications of traditional Regression Discontinuity. Much of this will closely follow Imbens and Lemieux (2009, *J Econometrics*)

“Regression Discontinuity Designs: A Guide to Practice.” This includes a discussion of the theory of RD design, both fuzzy and sharp; the correct interpretation of coefficient estimates in RD, and the lecture will supplement this discussion with a variety of case studies. Some of the examples to be described include: Duflo (2000, *WBER*), who studies the effect of the Old Age Pension in South Africa, as well as Angrist and Lavy (1999, *QJE*), who examine the effects of class size in Israel on educational outcomes. Other results from the US and Europe will also be considered.

Part II: Spatial RD

First, we will undertake an extensive discussion of the spatial literature, much of which focuses on estimating the effects of Labor Regulations. In practice, estimation of spatial discontinuities have diverged from other regression discontinuities as researchers have incorporated the fact that space, unlike many “running” variables which determine program eligibility, has two dimensions. Case studies involving different treatments of spatial discontinuities by Card and Krueger (1994, AER), Holmes (1998, JPE) and Dube, Lester, and Reich (ReStat, forthcoming), all of which use different methods to estimate the effects of labor standards in the US. However, the treatment of standard errors is complicated for two reasons: first, labor regulations tend to be implemented at an aggregate level, which may cause problems with correlated error terms (e.g. Donald and Lang, 2001 ReStat; Bertrand, Duflo, and Mullainathan, 2004, QJE); Second, the focus on space highlights the need to correct for spatial correlations (Conley, 1999 J Econometrics). These discussions will lead into a discussion of Jeremy’s paper on the effects of bargaining councils on unemployment in South Africa.

If you wish to attend please send a short motivation to Tania Jacobs at ERSA (tania.jacobs@uct.ac.za) by **Monday 08 February 2010**.