Banco de la República | Colombia
Somos el banco central de Colombia

Uncovering Time-Specific Heterogeneity in Regression Discontinuity Designs

Download Other Working Papers Keep in mind
The series Working Papers on Economics is published by the Office for Economic Studies at the *Banco de la República* (Central Bank of *Colombia*). It contributes to the dissemination and promotion of the work by researchers from the institution. This series is indexed at Research Papers in Economics (RePEc).

On multiple occasions, these works have been the result of collaborative work with individuals from other national or international institutions. The works published are provisional, and their authors are fully responsible for the opinions expressed in them, as well as for possible mistakes. The opinions expressed herein are those of the authors and do not necessarily reflect the views of Banco de la República or its Board of Directors.

AUTHOR OR EDITOR Mauricio Villamizar-Villegas Yasin Kursat Onder
The series Borradores de Economía (Working Papers on Economics) contributes to the dissemination and promotion of the work by researchers from the institution. On multiple occasions, these works have been the result of collaborative work with individuals from other national or international institutions. This series is indexed at Research Papers in Economics (RePEc)

Publication Date: Friday, 6 of November 2020

The opinions contained in this document are the sole responsibility of the author and do not commit Banco de la República or its Board of Directors.

Abstract
The literature that employs Regression Discontinuity Designs (RDD) typically stacks data across time periods and cutoff values. While practical, this procedure omits useful time heterogeneity. In this paper we decompose the RDD treatment effect into its weighted time-value parts. This analysis adds richness to the RDD estimand, where each time-specic component can be diffent and informative in a manner that is not expressed by the single cutoff or pooled regressions. To illustrate our methodology, we present two empirical examples: one using repeated cross-sectional data and another using time-series. Overall, we show a signicant heterogeneity in both cutoff and time-specic effects. From a policy standpoint, this heterogeneity can pick up key differences in treatment across economically relevant episodes. Finally, we propose a new estimator that uses all observations from the original design and which captures the incremental effect of policy given a state variable. We show that this estimator is generally more precise compared to those that exclude observations exposed to other cutoffs or time periods. Our proposed framework is simple and easily replicable and can be applied to any RDD application that carries an explicitly traceable time dimension.

Fuente: https://www.banrep.gov.co/en/uncovering-time-speci-c-heterogeneity-regression-discontinuity-designs