

# CONNOR DOWD

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## Education

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- PhD:** University of Chicago Booth School of Business Expected 2021  
*PhD Candidate in Econometrics and Statistics*  
Committee: Chris Hansen, Max Farrell, Panos Toulis, Constantine Yannelis
- MBA:** University of Chicago Booth School of Business 2019
- BSc:** University of St Andrews (Scotland) 2015  
*(Honours) Economics and Statistics*

## Research Interests

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Causal Inference; Nonparametrics; Energy and Environmental Policy; Financial Decision Making; Public Finance

## Working Papers

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### Extrapolation in RD: Smoothness for Inference with Donuts (Job Market Paper)

Regression Discontinuity (RD) uses policy thresholds to identify causal treatment effects at the threshold. In most settings, the Local Average Treatment Effect (LATE) at the threshold is not the parameter of interest. I provide high level smoothness conditions under which extrapolation across the threshold is possible. Under these restrictions, both estimation and inference for the LATE in other locations is possible. In some situations, extrapolation may be necessary to merely estimate the LATE at the threshold. RD donuts are one such situation, and I provide results allowing estimation and inference in that setting as well.

### Inference in Synthetic Controls with Spillovers – with Jianfei Cao

We propose a procedure for debiasing synthetic control estimates in the presence of spillovers.

## Work in Progress

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### Waiting for the Hot Hand - with Sam Hirshman and Nicholas Polson

Using sequence wait times to detect and explain the widespread belief in the hot hand in basketball.

### Credit Card Repayment Strategies

Rethinking optimal credit card repayment strategies in the presence of income shocks

### Judge Designs: Missing the Forest for the Trees?

Using tree based methods to debias judge-design inference

## Teaching Experience

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- Big Data:** Undergraduate – Course Instructor Spring 2021
- New Developments in Public Finance:** PhD – Teaching Assistant (*Evaluation: 4.86/5*) 2018-2020
- Data Science for Marketing Decision Making:** MBA – Teaching Assistant 2019-2020
- Applied Regression Analysis:** MBA, Executive MBA – Teaching Assistant 2016-2018
- Advanced Microeconomic Analysis:** MBA – Teaching Assistant 2016
- MBA Tutor:** Applied Regression Analysis, Business Statistics, Microeconomics, Ongoing  
Advanced Microeconomic Analysis, Pricing Strategies, Data-Driven Marketing

## Software

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### Published.....

**twosamples**: Fast (C++) ECDF two sample tests, with a novel test procedure, in R (Paper) *CRAN, Github*

**SCM+ (R)**: Valid Inference for Synthetic Controls in the presence of Spillovers *Github*

### Language Experience.....

*Fluent*: R, Python,  $\LaTeX$ ; *Conversational*: SQL, Matlab, Mathematica;

*Used in production code*: Stata, SAS, Bash, HTML, C++, Stan, Spark

## Other Research Experience

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**Causal Outcomes of Police Oversight**: Research Assistant **Canice Prendergast** 2020  
Empirical analysis of crime & arrest data focused on an oversight reform

**Food Banks' Welfare Gains from Markets**: Research Assistant **Canice Prendergast** 2019  
Estimated welfare gains from adding 'auction prices' into food bank donation allocation decisions

**Optimal Policy Design under Heterogeneity**: Research Assistant **Chris Hansen and Max Farrell** 2018  
Simulated using experimental data to optimally target a job-training policy with heterogenous effects

**Energy/Environmental Policy Fellowship**: Research Fellow **EPIC - India** 2017  
Helped start field experiment assessing lifestyle changes associated with solar microgrids in rural India

**ESG Investment Research**: Research Assistant **Booth Rustandy Center** 2016  
Helped create research database focused on funds doing ESG investment in the US.

**Happiness and Unemployment Research**: Research Assistant **David Ulph** 2015  
Used happiness measures to examine welfare consequences from different causes of unemployment.

**SSA Policy Research**: Intern **Social Security Advisory Board** 2014  
Evaluated distributional effects of changes to Social Security's WEP and GPO provisions.

## Fellowships

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Wesley C. Pickard Fellowship 2020

Katherine Dusak Miller Fellowship 2019

Joseph A. and Susan E. Pichler Fellowship 2018

Energy Policy Institute at Chicago - India Research Fellowship 2017

## Presentations

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**UChicago Econometrics Lunch**: Regression Discontinuity Donuts and Derivative Bounds 2020

**Midwest Econometrics Group**: Regression Discontinuity Donuts and Derivative Bounds 2019

**Midwest Econometrics Group**: Synthetic Control Method with Spillovers 2018

**Energy Policy Institute at Chicago – India**: Regression Discontinuity in Practice 2017

## Consulting

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**Cybersecurity Model Building**: Arx Nimbus 2017  
Modelling business risks across failure modes and types of losses.

**Electric Grid Operations Analysis**: Switched Source 2017  
Estimating the utility losses prevented by startup's IP