Diego Canales

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EDUCATION

Ph.D. Economics **2020**
University of Nottingham
> Dissertation focused on the dynamic complexity of the American presidential primary elections. In each chapter I present two theoretical approaches to analyze phenomena surrounding sequential primary elections. The first is an axiomatic model that generalizes the notion of the Condorcet-winner into a k-winner. Secondly, I characterize Subgame Perfect Nash Equilibria that challenge the intuitive results on (i) momentum and (ii) Duverger's law.

M.Sc. Mathematics **2014**
University of Texas at El Paso

B.Sc. Applied Mathematics **2011**
University of Texas at El Paso

TEACHING EXPERIENCE

Teaching Associate **09/2019 – 08-2020**
University of Nottingham, School of Economics
- L13516 Advanced Microeconomics
- L13616 Advanced Industrial Economics
- L13619 Advanced Mathematical Economics
- L13500 Stata Computer Classes

Graduate Teaching Fellow **10/2018 – 05/2019**
University of Nottingham, School of Economics
- L12418 Industrial Economics
- L13502 Advanced Public Economics
- L11117 Economic Perspectives

Graduate Teaching Assistant **10/2016 – 05/2018**
- University of Nottingham, School of Economics
  - L11MEE Mathematical Economics and Econometrics
  - L12302 Microeconomic Theory
  - L11106/ L12106 Quantitative Economics I and II
- University of Nottingham, Business School
  - N14204 MSc Managerial Economics module
  - N11609 Economic Principles

Hourly Lecturer **10/2018 – 05/2019**
Nottingham Trent University, Business School
- BUSI12082 Economics for Business

Final Examination Marker   **10/2016 – 05/2019**
University of Nottingham, School of Economics
- Quantitative Economics I and II, Microeconomic Theory, Mathematical Economics and Econometrics, Industrial Economics, International Trade

Mathematics Lecturer   **08/2015 – 12/2015**
University of Texas at El Paso, Math Department
- MATH1319 Math for Liberal Arts
- MATH1320 Math for Social Sciences
- MATH1411 Calculus I

Graduate Teaching Assistant/Tutor   **08/2012 – 05/2014**
University of Texas at El Paso, Math Department

WORKING PAPERS

A Spatial Model with *k*-winners
The concept of Condorcet winner has become central to most electoral models in the Political Economy literature. A Condorcet winner is defined as the alternative that is preferred by a plurality in every pairwise competition. The notion of a $k-$winner generalizes that of a Condorcet winner. Given N alternatives, the $k-$winner is the unique alternative that is *top-ranked* by the plurality in every competition composed exactly of k alternatives, including itself. We present a spatial characterization of this theoretical concept. Moreover, we use a spatial voting setting to derive additional results. More importantly, we show that if a $k-$winner exists for any $k > 2$ then the same alternative must be the $k'-$winner for any $k < k' \leq N$. Finally, we provide further sufficient and necessary conditions for the existence of a k-winner for any $k > 2$.

The Case of American Presidential Primaries: A Model of Sequential Primary Elections
We present a theoretical model to analyze two phenomena surrounding sequential elections: momentum and Duverger's law. Momentum can be defined when a candidate starts the election season with a streak of successful events (polling or election results) in such way that it would guarantee a greater probability of winning the race. On the other hand, our modified version of Duverger's law asserts that primary candidates tend to quit at earlier stages of the election under plurality rule compared to proportional representation. Our theoretical results will derive conditions to challenge both assertions. Furthermore, we will exploit the dynamic nature of primary elections by using the concept of a Condorcet-winner and k-winners. The $k-$winner is the alternative that is *top-ranked* by the majority in every electoral competition composed exactly of a subset of k candidates.

AWARDS AND SCHOLARSHIPS

GTA Teaching in Excellence Award – University of Nottingham, (2017, 2018, and 2019)
Graduate Teaching Fellowship – University of Nottingham, 2018
CONACYT Doctoral/Masters Scholarship – Mexican Government (2012-2014, 2015-2019)

SUMMER SCHOOLS

Texas Tech University - Foster School of Medicine   **2011**
Research assistant under the supervision of Dr. François Modave
from the Department of Statistics and Computer Science.
Research Topic: "*Cluster analysis in cancer-related probes*"

Rice University Summer Institute of Statistics   **2010**
Research assistant under the supervision of Dr. Javier Rojo from the
Department of Statistics. Title: "*A Study on Tails of Bivariate Distributions*"

CONFERENCE PRESENTATIONS AND WORKSHOP ATTENDANCE

2020 Public Choice Society Annual Meetings (Accepted)   **March 2020**
Newport Beach, California

3rd International Conference on Economic Research (Accepted)   **October 2019**
Alanya, Turkey

XVII Symposium of Mexican Studies and Students in the UK   **June 2019**
University of Cambridge

NICEP Seminar   **March 2019**
University of Nottingham

6th International PhD Meeting in Economics   **July 2018**
University of Macedonia, Greece

SKILLS & QUALIFICATIONS

- Preparing to Teach in Higher Education Certificate.
- Programming languages: R (Advanced), Stata (Intermediate) and LaTeX (Advanced).
- Fluent in English and Spanish.

REFERENCES

Prof. Daniel Seidmann
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