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## EMPLOYMENT

Postdoctoral Researcher, Yale University, 2019-21
Economist, Chilean Antitrust Agency. Department of Collusion and Department of Mergers, 2011-13
Economist, National Congress, Chile. Department of Advisors, Economics Division, 2010

## EDUCATION

Ph.D. in Economics, New York University, 2013-19
M.Phil. in Applied Economics, New York University, 2013-17
M.A. in Economics, University of Chile (Highest Honors), 2008-10
B.A. in Economics, University of Chile (Highest Honors), 2004-08

## REFERENCES

Professor Boyan Jovanovic
NYU Department of Economics
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Professor Luis Cabral
NYU Leonard N. Stern School of Business
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Professor Ennio Stacchetti
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Felipe Irarrazabal Ph.
Visiting Scholar at Stanford Law School
Previous: Head of Chilean Antitrust Agency
Director Competition Center
Universidad Adolfo Ibanez, Chile
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## Research Fields

Industrial Organization (theory and empirical), Statistical Learning, Competition Policy, Political Science, Applied Microeconomic.

## Diplomas and Certificates

- Applied Data Science with Python, U. Michigan (*Topics*: Plotting, Machine Learning, Data Mining, Social Networks),
- Data Science Pro Certificate, IBM (Topics: SQL and Python for Data Science, Data Analysis and Data Visualization, Machine Learning models)

- Deep Learning Specialization, deeplearning.ai (*Topics:* Deep Learning, Convolutional Neural Networks, Artificial Neural Network, Tensorflow)
- Others: a. Google Courses (*Topics*: Crash Course in ML, Problem Framing, Data Prep, Clustering, Recommendations, Testing and Debugging, GANs); b. Reinforcement Learning, U of Alberta; c. Bayesian Methods for ML, National Research U.

Teaching Experience (Lecturer)

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|---|---|
| Spring 2010 and 2011, Summer 2012 | Industrial Organization (B.A. level), University of Chile |

Research Assistant Experience

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|---|---|
| Spring 2016-Spring 2019 | R.A., Prof. Boyan Jovanovic, NYU |
| Summer 2018 | R.A., Prof. Jess Benhabib, NYU |
| Spring 2016-Fall 2017 | R.A., Prof. Charles Angellucci, Columbia Univ. |
| Fall 2009-Summer 2011 | R.A., Prof. Aldo Gonzalez, University of Chile |

Teaching Assistant Experience

*NYU*

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|---|---|
| Fall 2016, Fall 2017 and Fall 2018 | Industrial Organization, GA (PhD. level) |
| Spring 2016 and Spring 2017 | Advanced Micro Theory, GA (B.A. level) |
| Spring 2017 | International Economics, Finance (B.A. level) |

*University of Chile*

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|---|---|
| Fall 2009 | Microeconomics II (M.A. and PhD. levels) |
| Spring 2009 | Macroeconomics I (M.A. and PhD. levels) |
| Spring 2007 and Spring 2008 | Operations Management (B.A. level) |
| Spring 2007 | Econometrics I (B.A. level) |
| Spring 2006 and Fall 2008 | Introduction to Macroeconomics (B.A. level) |
| Fall 2006 | Statistics (B.A. level). |

Honors, Scholarships and Fellowships

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|---|---|
| 2013-2018 | Henry McCracken Fellowship, Ph.D. studies, NYU |
| 2009-2010 | National Master's Scholarship. Advanced Human Capital Formation Program, Chilean National Commission of Research in Science and Technology (CONICYT), Government of Chile |
| 2009-2010 | Top Master Student (1 out of 22, GPA), M.A. in University of Chile |
| 2006-2009 | Top Undergraduate Student (1 out of 204, GPA), B.A. in Economics, University of Chile |

Research Papers

*The evolution of platform use and platform revenue: The case of Facebook*

I investigate the effects of direct and indirect network effects on diffusion and the innovator's profits. The main result is the innovation diffuses faster, users pay lower prices and the platform earns higher profits when it faces a two-sided market. The platform wants to obtain a relevant

number of adopters to earn profits from advertisers. Numerical solutions establish that the diffusion process is S-shaped when the utility of advertisers grows faster than the users'. Lastly, the model is tested fitting Facebook's historical data. The model closely replicates the evolution of active users and the profits Facebook has earned due to advertising.

*Pricing and Entry in an Environment with Network Effects and Switching Costs*

This article develops a dynamic model of duopolistic price competition to assess the impact of network externalities and switching costs on prices and entry. Results suggest that firms with higher market shares set higher prices when market frictions are relevant: the large firm exploits the locked-in phenomenon. Market frictions also make the entry and growth of small firms harder: their expected demand and value function are lower even when they set competitive prices. The latter effects are stronger when the market matures. Lastly, the model is tested fitting prices in the Chilean mobile phone market before and after the implementation of the MNP and the elimination of the tariff differentiation between on-net and off-net calls.

*Party Institutions and Social Welfare*
(coauthors: Alexander Kustov, Frances Rosenbluth, Ian Shapiro)

It is widely acknowledged that democracy affects economic growth and social welfare. The existing political economy literature, however, rarely disaggregates political institutions in ways that generate testable propositions about causal mechanisms. Our project seeks to advance this important strand of research by reconceptualizing both the independent and dependent variables. Specifically, we argue that stronger party systems, characterized by electoral competition between few disciplined parties, are more likely to implement effective government policies that generate inclusive economic growth than weaker systems with undisciplined or multiple coalition parties. We then show that government investments in early childhood education and care (ECEC) and family in-kind benefits are especially good at promoting long-term social welfare. To test our argument, we estimate the effect of party institutions on such future-oriented government spending by exploiting the timing of major changes to party discipline and fragmentation in an original dataset covering the last forty years in OECD countries. Overall, we show that political systems in which parties are large and disciplined are more likely to spend on effective public policies.

*The Rise of Safe Seats and the Decline of Party Discipline in the U.S. Congress*
(coauthors: Alexander Kustov, Akhil Rajan, Frances Rosenbluth, Ian Shapiro)

What explains the growing dysfunction of the U.S. Congress? Many studies emphasize the role of polarization, but we argue instead that the historically weak party discipline contributes to poor legislative performance. We hypothesize that the rising number of safe House districts leads to the greater divergence of legislator preferences not just between but also within parties, which endogenously weakens party discipline alongside polarization. First, we provide comprehensive historical evidence on the share of safe seats in U.S. House districts and its increase over time using several alternative measures of electoral competitiveness. We then document how this trend coincides with the increase of government’s dysfunction as indicated by the rising

legislative gridlock, less frequent passage of majority's agendas, and the decreasing long-term-oriented spending. Second, we explore the potential mechanisms behind this relationship by comparing the preferences of legislators in more and less competitive districts. In line with our account, we show how representatives from safer seats—and especially those from the GOP—have more ideologically extreme and divergent preferences (due to a combination of more extreme electorates, challengers, and donors), which makes them less willing to support their party agenda.

Research in Progress

*Loss Leading Strategy and Incentives to Collude*

This article examines the incentives loss-leading strategy generates on retailers and manufacturers to collude using a hub-and-spoke scheme. In the model, loss-leading arises due to the existence of a positive complementarity between demands. To allow the possibility of a hub-and-spoke type of agreement, the model assumes that the upstream firm and retailers negotiate the wholesale price via a Nash Bargaining process. Results suggest the manufacturer and both retailers collude to impose a minimum resale price when the degree of complementarity between demands is high and when the degree of inter-brand competition in the core product belongs to an intermediate value.

*The impact of cooperation on investment: an application of network sharing agreements*
(coauthors: Marc Ivaldi, Vicente Lagos)

This project aims at evaluating the effects of a network sharing agreement (NSA) signed by two incumbents in the mobile telecommunications industry in the Czech Republic to jointly deploy a nationwide 4G network. Using detailed data on average revenue per user (ARPU), average download speeds and market shares, we estimate a structural model of supply and demand to evaluate different competition settings and counterfactuals. In particular, different equilibriums are computed depending on whether it is assumed that the NSA parties choose prices and qualities jointly or independently, or whether they move simultaneously or sequentially.

*Competition Degree, Occupational Choice and Inequality*

Others

IT's skills: Python, Matlab, Gauss, Stata, SQL, E-views, Office, Latex and Scientific Workplace
Languages: Spanish (Native), English (Fluent)