

# Application Materials

**Hector Bahamonde, PhD in Political Science**  
Rutgers, The State University of New Jersey, U.S. (2017)  
Currently he is an Assistant Professor (tenure-track) in Chile

June 8, 2021

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June 6, 2021, download latest version [here](#)

Dear Members of the Search Committee,

I am writing to apply for the position available at your institution. Currently, I am an assistant professor at O'Higgins University in Chile (a public research university). Since my wife and two small children are German, my main goal is to **begin an academic career in Europe**. I am looking forward to start from the bottom of the academic hierarchy. Also I have immediate availability.

I obtained my B.A. in Political Science at Catholic University of Chile. Then I received a full fellowship from Rutgers University to pursue my doctoral studies. After receiving my PhD in Political Science from Rutgers University-New Brunswick, NJ, U.S. in May 2017—where I studied under the direction of Robert Kaufman and Daniel Kelemen—I spent one year as a post-doctoral fellow at Tulane University-New Orleans, LA, U.S. **My research explores the economic and political origins of state capacity as well as the political economy of institutional development and the role of inequality on democratic development. My methods include historical analyses, quantitative and experimental methods.** I pay particularly attention to new ways of using digital information to construct natural experiments within the potential outcomes framework.

In this cover letter I will highlight some details about my research and teaching agendas.

**Inequality and clientelism.** I kindly invite the reader to check both “[Aiming Right at You: Group versus Individual Clientelistic Targeting in Brazil](#)” (*Journal of Politics in Latin America*, 2018) and “[Still for Sale: The Micro-Dynamics of Vote Selling in the United States, Evidence From a List Experiment](#)” (*Acta Politica*, forthcoming). In both pieces I challenge the traditional role attributed to poverty when explaining clientelism. Instead, I try to switch the focus to income inequality. Both papers used top-notch statistical and experimental methods—and when possible, a novel dataset representative at the country level (collected thanks to a generous grant I received).

Within the same research line, I have a number of papers in the pipeline. In a first [paper](#), we design an economic experiment about vote selling and vote buying. By implementing in the lab a bargaining game (in an extensive form), the experiment recreates some market conditions that exist between vote buyers and vote sellers. In a second [paper](#) (in preparation) we introduce machine learning methods to analyzing conjoint experimental data in the context of clientelism. Finally, in a third (technical) [paper](#), we show the corresponding theoretical demonstrations (under review, *Political Analysis*).

**Economic inequality and democracy.** We have published a paper that explores the relationship between state capacity, democracy and inequality. Using time-series econometrics we find in “[Inclusive Institutions, Unequal Outcomes: Democracy, State Capacity, and Income Inequality](#)” (forthcoming in *European Journal of Political Economy*) that democratic rule combined with high state infrastructural power produce *higher* levels of income inequality over time. This relationship operates through the positive effect of high-capacity democratic context on investor confidence, FDIs and financial development. In addition to that, in “[Skyrocketed Inequality and \(Un\)lockdown Political Elites in Chile: Aerodrome Usage during Pandemic Times](#)” (*in preparation*) we exploit a novel aerodrome usage dataset which looks at how Chilean elites were able to flight to their vacation houses, skipping lockdown policies. The paper shows how authorities were (somewhat) successful at detaining working class citizens on the ground, while a complete “failure” when overseeing

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air traffic control at small aerodromes during the pandemic. Our **identification strategy** relies on the relatively safe assumption that aerodromes are *strictly* used by the elites. Finally, in “[The Bus of Inequality: Public Transportation and COVID in Santiago](#)” (*in preparation*) we find that contagion aimed at restricting mobility in working-class municipalities were higher relative to wealthier municipalities. Both manuscripts go in line with the “politics of weakness” literature, suggesting that local authorities chose to be “weak,” conveniently overlooking certain policies while effectively enforcing others.

**State building.** Using a novel dataset on historical earthquakes to proxy state capacity, in “[Income Taxation and State Capacity in Chile: Measuring Institutional Development Using Historical Earthquake Data](#)” (*in preparation*) I explain that sectoral conflicts between the landed and industrial elites fostered inter-elite compromises that lead to higher levels of state capacity over time. The paper seeks to analyze how economic structural transformations in Latin America helped states to make institutional investments that lead to the formation of states with higher capacity. I leverage fine-grained historical case study comparisons, sectoral economic outputs from 1900 to the present, Bayesian time-series econometric techniques, hazard models, and a novel earthquake dataset that covers sub-national death tolls from 1900 to the present to measure state capacity. This project builds on the fiscal sociology literature and the dual-sector economy model.

As a comparativist and political economist, I believe that advanced methods should be used to answer big questions. In this sense, my research also has a disciplinary agenda. My scholarly work seeks to examine classic problems in comparative political development (e.g. state capacity, clientelism, etc.), while at the same time incorporating cutting-edge econometric and experimental techniques. Similarly, my working papers and experiments, are concerned with fundamental questions regarding democratic theory.

As an **instructor**, I am interested in courses that are carefully designed to answer big questions in comparative politics, not only from a Latin American perspective, but also across the broader spectrum. As a political economist, I mostly focus on economic development, economic history, institutional development and democratic development/underdevelopment. I am also interested in political participation, competitive authoritarianisms, welfare politics, party politics and other relevant topics. I would also feel very comfortable teaching both basic and advanced **methods** courses. At Rutgers and Tulane, I always received excellent teaching evaluations. Please, [send me an email](#) to receive the most recent one, or let me know if you need teaching references. **Service** to the department and its extended programs is always a top priority. I firmly believe that being part of a teaching/research community requires active involvement. I am looking forward to do my part in this regard. **Collaborative research with my students** is another priority. For example, as an undergraduate student I worked very close with faculty members doing research. I learned so much outside of the classroom by doing research that it would *not* be natural for me to not replicate my experience with my own students.

More information, [syllabi](#), my [research](#), [teaching](#) and [diversity](#) statements, as well as other [papers](#) are available on my website: [www.HectorBahamonde.com](http://www.HectorBahamonde.com). Thank you for considering my application. I look forward to hearing from you.



Hector Bahamonde, PhD

# Hector Bahamonde

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Zoom ID: 951-326-1038

CV last updated: June 6, 2021.

[Download latest CV here.](#)

## Education

- **Rutgers, The State University of New Jersey–New Brunswick, New Jersey, United States**  
Ph.D. in Political Science, September 2012–May 2017.
  - Dissertation: “State Capacities in Latin America: Structural Transformations, Elite Competition, and Fiscal Development (1850-2010).”
  - Committee: Robert Kaufman (chair), Daniel Kelemen, Douglas Blair (Economics), Paul Poast (University of Chicago).
  - Fields: Comparative Politics and Quantitative Methodology.
- **Catholic University of Chile–Santiago**  
B.A. in Political Science, 2005–2009.

## Academic Employment

- **Universidad de O'Higgins, Rancagua, Chile**  
Assistant Professor (tenure-track), July 2018—today.
- **Tulane University, New Orleans, LA, United States**  
Post-Doctoral Fellow, Center for Inter-American Policy & Research (CIPR), June 2017—June 2018.
- **Rutgers University, New Brunswick, NJ, United States**  
Teaching Assistant, September 2014—May 2017.

## Appointments

- **Program Coordinator:** Public Administration UOH, 2018.
- **Researcher:** Labor Studies UOH, 2020—today.
- **Researcher:** Millennium Institute, Foundational Research on Data, 2020—today.
- **Editorial Board Member:** “*Social Sciences*” journal, Springer Nature, 2020—today.

## Research

### *Research and Teaching Interests (undergraduate and graduate)*

Origins of state capacity and public administration, decentralization, state formation, inequality, comparative political economy, political development, Latin American politics, causal inference, experimental methods (natural, lab and survey-based) and statistical methods (frequentist and Bayesian).

### *Dissertation*

My dissertation argues that sectoral economic conflicts fostered state-building in Latin America. Using fine-grained historical case study comparisons, sectoral outputs from 1900 to the present, panel data and time-series econometric techniques, and a novel earthquake dataset (to measure state capacity), I find that industrial expansion altered the post-colonial political balance, thus putting heavy pressures for the implementation of tax institutions. In turn, fiscal expansion fostered both political development and economic growth.

### *Peer-Reviewed Articles*

- [Inclusive Institutions, Unequal Outcomes: Democracy, State Capacity, and Income Inequality](#). *European Journal of Political Economy*, forthcoming. With Mart Trasberg (Tulane University).
- [Still for Sale: The Micro-Dynamics of Vote Selling in the United States, Evidence From a List Experiment](#). *Acta Politica*, forthcoming.
- [Employment Effects of Covid-19 across Chilean Regions: An Application of the Translog Cost Function](#). *Regional Science, Policy and Practice*. 2020; 12: 1151—1167. With Felix Modrego (UOH) and Andrea Canales (UOH).
- [Aiming Right at You: Group versus Individual Clientelistic Targeting in Brazil](#). *Journal of Politics in Latin America*. 2018; 10(2), pp. 41—76.
- [El Secreto de mi Éxito: Parte II. Los Caminos a Valparaíso en 2009](#). *Revista de Ciencia Política*, 2011; 31(2), pp. 285—310. With Pilar Giannini, Juan Pablo Luna, Rodolfo López, Martín Ordoñez and Gonzalo Recart.

### *Under Review, Revise and Resubmit, Submitted*

- [Analyzing Conjoint Datasets with Support Vector Machine Methods](#), *under review, Political Analysis*. With Cristóbal Quiñinao (UOH).

### *Work in Progress*

- [Recreating Market Conditions for Vote-Selling and Vote-Buying in the Lab: An Economic Experiment, work in progress](#). With Andrea Canales (UOH).
- [The Bus of Inequality: Public Transportation and COVID in Santiago](#), *in preparation*. With Felix Modrego (UOH) and Andrea Canales (UOH).
- [Skyrocketed Inequality and \(Un\)lockdown Political Elites in Chile: Aerodrome Usage during Pandemic Times](#), *in preparation*. With Paz Irarrázabal (Universidad de Chile).
- [Machine Learning and Political Ideology in the U.S.: An Experimental Case Study using SMOTE](#), *in preparation*. With Cristóbal Quiñinao (UOH).

- Vote Selling in the United States: Introducing Support Vector Machine Methods to Analyzing Conjoint Experimental Data, *in preparation*. With Cristóbal Quiñinao (UOH).
- Not Just Guns or Butter, but What Came First—Guns or Butter? Introducing GVAR to International Relations, *work in progress*. With Natalia Bahamonde (PUCV-Chile) and Igor Kovac (U Cincinnati).
- Sectoral Origins of Income Taxation: Industrial Development in Latin America, and The Case of Chile (1900-2010), *in preparation*.
- Income Taxation and State Capacity in Chile: Measuring Institutional Development Using Historical Earthquake Data, *in preparation*.
- Structural Transformations and State Institutions in Latin America, 1900-2010, *in preparation*.
- Testing the Online Model of Candidate Evaluation in a More Realistic Environment, *in preparation*. With Richard Lau (Rutgers University) and Mona Kleinberg (UMass - Lowell).

### *Book Reviews in Peer-Reviewed Journals (Invited)*

- Inés Durán Matute (2019). “Indigenous Peoples and the Geographies of Power: Mezcalá’s Narratives of Neoliberal Governance” (Routledge). *Journal of Iberian and Latin American Research*.

### *Book Chapters*

- ¿Estable Pero Sin Raíces? Los Partidos Políticos Chilenos en la Opinión Pública, in *Cultura Política de la Democracia en Chile, Ch. IX, LAPOP Country Report, 2010*. With Juan Pablo Luna, Germán Bidegain, Roody Reserve and Giancarlo Visconti.

### *Conference Talks*

- **American Political Science Association (APSA)**: 2016 (Philadelphia), 2019 (Washington D.C.—full panel organizer), 2020 (San Francisco).
- **Midwest Political Science Association (MPSA, Chicago)**: 2017, 2018 (declined), 2020 (canceled—COVID19).
- **International Conference (Italian Association for the History of Economic Thought, AISPE)**: 2019 (Bologna, Italy).
- **Red de Economía Política para América Latina (REPAL)**: 2019 (New Orleans).
- **Latin American Studies Association (LASA)**: 2014 (Chicago), 2015 (San Juan, declined), 2016 (NYC), 2018 (Barcelona, Spain).
- **Western Political Science Association (WPSA)**: 2015 (Las Vegas), 2016 (San Diego, declined), 2018 (San Francisco, declined).
- **Southern Political Science Association (SPSA)**: 2015 (New Orleans), 2018 (New Orleans), 2020 (San Juan, Puerto Rico, declined).
- **Development Economics and Policy Conference (German Economic Association)**: 2018 (Zurich, declined).
- **Red Interamericana para la Educación en Administración Pública y Ciencia Política**: 2019 (Concepción).

## Invited Talks

- *Recreating Market Conditions for Vote-Selling and Vote-Buying in the Lab: The Chilean Case.* Centre for Experimental Social Sciences, Universidad de Santiago de Chile and Oxford University (Nuffield College). Colloquium. Santiago, December 10th, 2019.
- *New Frontiers in Clientelism.* Guest Lecture. Tulane University, 2017.

## Media Appearances and Op-Eds

- “[Plan Paso a Paso y Pobreza: Factores Atenuantes en la Región de O’Higgins.](#)” With Carolina Rodriguez (UOH). [ElRancaguino.cl](#), [O’HigginsAlDía.cl](#), [PoderyLiderazgo.cl](#): April 14th-15th. 2021.
- “[Investigadores pronostican que se podrían perder más de 35 mil empleos por la pandemia en O’Higgins.](#)” Cooperativa.cl: September 27th. 2020.
- “[Investigadores pronostican que se podrían perder más de 35 mil empleos por la pandemia en O’Higgins.](#)” Cooperativa.cl: September 27th. 2020.
- “[Gerentas en la Región de O’Higgins y Precariedad Laboral: ¿Dónde estamos como Región?](#)” With Cristina Hernández (UOH). [ElRancaguino.cl](#): September 24th. 2020.
- “[Uso de Conceptos Políticos en Épocas de Campañas Electorales: Nos merecemos más.](#)” With Mariela Soto (UOH). [DiarioElPulso.cl](#): August 25th. 2020.
- “[Desigualdad y Democracia en Chile.](#)” [ElTipógrafo.cl](#): July 9th. 2019.

## Grants, Fellowships, & Awards

- Domestic and International Conference Travel Support:
  - *Department of Political Science and School of Arts and Sciences*, Rutgers University (both fall and spring awards in 2013, 2014, 2015 and 2016).
  - *Stone Center for Latin American Studies*, Tulane University (2017).
  - *Center for Inter-American Policy and Research*, Tulane University (2018).
- Teaching Assistantship Appointment. *Department of Political Science and School of Arts and Sciences*, Rutgers University (2015, 2016, 2017).
- Small Grant Fund for Research on Latin America. *Center for Latin American Studies*, Rutgers University (2013).
- Teaching Assistant Professional Development Fund. *School for Arts and Sciences*, Rutgers University (2015, 2016, 2017).
- Pre-Dissertation Award. *Department of Political Science*, Rutgers University (2016).
- Experimental Workshop Award. *Center for the Experimental Study of Politics and Psychology*, Rutgers University (2015).
- Jerome M. Clubb Scholarship. *Inter-university Consortium for Political and Social Research* (2013).
- Excellence Fellowship. *School for Arts and Sciences*, Rutgers University (2012). Tuition remission, health benefits and stipends, for five years of doctoral studies.

## Teaching

**1. O'Higgins University:**

- “Quantitative Methods I”: OLS.
- “Quantitative Methods II”: MLE and causal inference.
- “Political Science I”: Introduction to political science.
- “Political Science II”: The political economy of state formation.
- “Social Sciences and Epistemology.”
- “Introduction to Social Sciences.”

**2. Tulane University:**

- “Introduction to Comparative Politics” (2018).

**3. Rutgers University:**

- “Math and Computing Camp for Political Scientists” (2015).
- “Introduction to Quantitative Methods” (TA, 2015).
- “American Government” (TA, 2014—2017).

☞ **Also I would be very happy to teach the entire methods sequence (undergraduate and/or graduate),** including but not limited to: time series and panel-data methods, experiments and causal inference for the social sciences, epistemology and qualitative methods, statistics for the social sciences (frequentist/Bayesian) and statistical programming. I can be very flexible and take care of the needs of the institution.

## Referee for

- Political Behavior.
- Third World Quarterly.
- The Oxford Encyclopedia of Political Decision Making.
- Journal of Iberian and Latin American Research.
- Revista Chilena de Derecho y Ciencia Política.
- Social Sciences.
- Revista de Ciencia Política.

## Service

- Coordinator: *ICSO-UOH Speaker Series*, 2020—today.
- Panel Discussant: MPSA 2018.
- Panel Chair: WPSA 2018, APSA 2019 (full paper panel organizer).
- Graduate student representative. CPE/IPE job search (2015). *Rutgers University*.
- Discussant “Emerging Trends Topics” talks (2014, 2015). *Rutgers University*.
- Graduate Student Mentor (2014-2017). *Rutgers University*.

## References

- **Robert Kaufman:** Professor, Rutgers University.
- **Daniel Kelemen:** Professor and Jean Monnet Chair in European Union Politics, Rutgers University.
- **Paul Poast:** Associate Professor, Department of Political Science, University of Chicago.
- **Juan Pablo Luna:** Associate Professor, Political Science Institute and School of Government (joint appointment), Catholic University—Chile.
- **Ludovico Feoli:** Executive Director Center for Inter American Policy and Research, Research Associate Professor, Tulane University.
- **Ross Baker:** Distinguished Professor, Rutgers University.

## Misc

### *Languages*

English, Spanish (native).

### *Software—advanced user*

R, Stata, L<sup>A</sup>T<sub>E</sub>X.

### *Certified Methods Proficiency*

Time Series I (ICPSR), Introduction to Bayesian Analysis (ICPSR), Time Series II (ICPSR), Advanced MLE - Panel Data (ICPSR), Experimental Political Science (RU), Advanced Research in Political Economy (RU), Formal Modeling I (Princeton), Advanced Econometrics (RU, Economics), Introduction to Game Theory (ICPSR), Regression III: Advanced Methods (ICPSR), Measurement, Scaling and Dimensional Analysis (ICPSR), Causal Inference for the Social Sciences (ICPSR), Regression Analysis (RU, Statistics), Maximum Likelihood Estimation for GLMs (RU).



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## CERTIFICADO DE TITULO

Certifico que conforme con la reglamentación de la Universidad, con fecha 13 DE ABRIL DE 2010 según consta del expediente correspondiente, se otorgó el TITULO DE CIENTISTA POLÍTICO a don HECTOR ISMAEL BAHAMONDE NORAMBUENA, RUT 15.838.499-K

Fue aprobado CON DOS VOTOS DE DISTINCIÓN.

RODRIGO URZÚA MARTÍNEZ  
PRO SECRETARIO GENERAL  
PONTIFICIA UNIVERSIDAD CATÓLICA DE CHILE  
FIRMA Y TIMBRE

*Rutgers, The State University of New Jersey*

On recommendation of the faculty of the

**School of Graduate Studies**

The Board of Governors confers upon

**Hector J. Bahamonde**

the degree of

**Doctor of Philosophy**

with all the rights, responsibilities, privileges, and immunities appertaining thereto.

Granted under the seal of the university on the  
first day of October, two thousand and seventeen.

*Jean T. Klav*  
Dean



*B. R. Breyer*  
President



If you have any questions, contact the REGISTRAR'S OFFICE at the appropriate location listed below:

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(856) 225-6053

249 University Avenue  
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Newark, NJ 07102-9286  
(973) 353-5324

DATE: MAY 09, 2018

NAME WHILE ATTENDING RUTGERS: HECTOR I. BAHAMONDE

This is to certify that the information provided in reference to the student named is true and accurate as of the above date. Procedures for producing this document were designed to incorporate standard certification data elements reflected on your request forms. Thank you for accepting this computer generated certification in lieu of our completing other specialized forms.

I. DATES OF ENROLLMENT

<u>TERM</u>	<u>DATE</u>	<u>SCHOOL</u>	<u>STATUS</u>	<u>CREDIT HOURS</u>	<u>WITHDRAWAL DATE</u>
Fall 2012	09/04/12 - 12/21/12	GRADUATE SCHOOL-NEW BRUNSWICK	FT	9.0	
Spring 2013	01/22/13 - 05/15/13	GRADUATE SCHOOL-NEW BRUNSWICK	FT	9.0	
Fall 2013	09/03/13 - 12/23/13	GRADUATE SCHOOL-NEW BRUNSWICK	FT	9.0	
Spring 2014	01/21/14 - 05/14/14	GRADUATE SCHOOL-NEW BRUNSWICK	FT	12.0	
Fall 2014	09/02/14 - 12/22/14	GRADUATE SCHOOL-NEW BRUNSWICK	FT	15.0	
Spring 2015	01/20/15 - 05/13/15	GRADUATE SCHOOL-NEW BRUNSWICK	FT	9.0	
Fall 2015	09/01/15 - 12/22/15	GRADUATE SCHOOL-NEW BRUNSWICK	FT	12.0	
Spring 2016	01/19/16 - 05/11/16	GRADUATE SCHOOL-NEW BRUNSWICK	FT	9.0	
Fall 2016	09/06/16 - 12/23/16	GRADUATE SCHOOL-NEW BRUNSWICK	FT	12.0	
Spring 2017	01/17/17 - 05/10/17	GRADUATE SCHOOL-NEW BRUNSWICK	FT	12.0	

II. DEGREE INFORMATION

DEGREE EARNED: PHD AWARDED: October 2017 SCHOOL: GRADUATE SCHOOL-NEW BRUNSWICK  
MAJOR: Political Science

SCHOOL CODE: 002629

ENROLLMENT CODES: FT = Full Time, HT = Half Time, LHT = Less Than Half Time

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# Journal of Politics in Latin America

Bahamonde, Héctor (2018),  
Aiming Right at You: Group versus Individual Clientelistic Targeting in Brazil, in:  
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Southeast Asian Affairs*: <[www.giga-journal-family.org](http://www.giga-journal-family.org)>.



# Aiming Right at You: Group versus Individual Clientelistic Targeting in Brazil

Héctor Bahamonde

**Abstract:** Do parties target individuals or groups? Although this question is fundamental to understanding clientelism, the literature does not offer an answer. This paper argues that, depending on certain conditions, brokers target individuals when they are identifiable, and groups when brokers need to rely on the spillover effects of clientelism. Both identifiability and spillovers depend on individual poverty, group poverty, and political competition. Though the theory I outline focuses on targeting, I also argue that structural factors, such as the density of the poor, should be considered in the vote-buying literature. Structural factors are one of the few observables upon which brokers can base their decision regarding investing in clientelism. Using survey and census data from Brazil, the paper exploits variations in personal incomes within contexts of differing levels of municipal poverty. I find that political parties engage in segmented or ad-hoc strategies, targeting individuals when identifiability is high, and groups when there are economies of scale. Importantly, non-poor individuals can also be offered clientelism.

■ Manuscript received 18 June 2017; accepted 29 June 2018

**Keywords:** Brazil, clientelism, vote-buying

**Héctor Bahamonde** is an assistant professor at O'Higgins University (Rancagua, Chile). In 2017 he received his PhD in Political Science from Rutgers University (New Brunswick, NJ). Then, he served one year as a post-doctoral fellow at CIPR, Tulane University (New Orleans, LA). His current research focuses on clientelism, the political economy of taxation, state formation, and Latin American politics. Personal website: <[www.hectorbahamonde.com](http://www.hectorbahamonde.com)>

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There is no agreement on when, how, and why parties choose to aim clientelist practices at individuals or groups.<sup>1</sup> The distributive politics and vote-buying literatures have traditionally pursued one of two approaches. The former has mostly focused on group targeting, usually districts or provinces (Dixit and Londregan 1996; Khemani 2015; and Calvo and Murillo 2004), showing that incumbent parties deliver public-sector jobs or construction projects contingent on the support of groups of people. The latter has typically focused on individuals and their characteristics, such as their socio-economic or electoral profiles. Substantively, however, it is not clear when or why clientelist brokers use either strategy.

In fact, the decision to investigate group-based and/or individual-based targeting seems to be attributable to distinct research designs and agendas, rather than theory. For example, ethnographers generally focus on individuals, while others have traditionally focused on groups (Scott 1972; Auyero 2000; Szwarcberg 2013; Weitz-Shapiro 2012; and González-Ocantos et al. 2012).<sup>2</sup>

What is most concerning, however, is that it is relatively assumed or implied that individual and group clientelist targeting strategies are interchangeable, when they are clearly not. Individuals pertaining to groups and individuals by themselves have different incentives to defect to the incumbent. For instance, individuals belonging to larger groups have greater incentives to defect (Stokes 2005), while individuals who are personally targeted have fewer incentives to defect (Auyero 2000). Anticipating this, brokers adjust their strategies accordingly. In the first instance, brokers deal with low-informational environments that increase principal-agent problems. In the second instance, brokers – who know their clients better – are able to leverage this knowledge, reducing the probability of defection. However, these differences have not been sys-

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1 I am grateful to Robert Kaufman, Daniel Kelemen, Richard Lau, Paul Poast, Geoffrey Wallace, Douglas Jones, Ezequiel González-Ocantos, Juan Pablo Luna, Jorge Bravo, Eric Davis, Adam Cohon, Edwin Camp, Luciana Oliveira Ramos, Giancarlo Visconti, William Young, Johannes Karreth, and the reviewers and editor of *JPLA*. I also thank participants of the Latin American Studies Association 2014 conference, the Southern Political Science Association 2015 meeting, the Western Political Science Association 2015 meeting, and the 2014 Graduate Conference at the Political Science Department, Rutgers University. Any errors that remain, of course, are my responsibility. This work was partially funded by the Center for Latin American Studies at Rutgers University. I am grateful to the School of Arts and Sciences and the Department of Political Science for their travel grants.

2 I wish to thank Ezequiel González-Ocantos for this suggestion.

tematized in the literature. In the present paper, I propose a framework that explains when it is more efficient to target groups or individuals.

Particularly, by focusing on brokers, the paper advances an argument about the decision process regarding whom to target. The crux of the argument is that this decision is a function of three factors: individuals' discount factors explained by income levels, the incentives of clientelist brokers to rely on spillover effects caused by the nesting structure of individuals (that is, whether individuals are nested in poor or non-poor contexts), and brokers' incentives to engage in clientelism explained by higher electoral pressures and political competition.

Overall, I share Carlin and Moseley's (2015: 14) opinion that "[e]xisting research looks almost exclusively at individuals' socio-economic and, specially, electoral profiles [and] [y]et our knowledge of who parties target remains incomplete." The present paper seeks to contribute to this issue by incorporating both structural and individual factors that foster clientelism in the same theory. Analytically, the structure of the argument (and the empirics) allows for disentangling the effects of "being poor" and "living in a poor area." Another important implication of the argument is that I am able to suggest why parties that adopt clientelism as a strategy, target their resources to both poor and non-poor individuals, an empirical regularity that, to the best of my knowledge, has been unexplored so far.

Perhaps the area in which there is the most agreement among scholars is on the relationship between poverty and vote-buying (Calvo and Murillo 2004; Weitz-Shapiro 2012; Kitschelt 2000; and Kitschelt and Altamirano 2015). For example, Brusco, Nazareno, and Stokes (2004), Stokes et al. (2013), and Nazareno, Brusco, and Stokes (2008) explained that since the poor derive more utility from immediate transfers than the uncertain returns associated with future policy packages, clientelist political parties only target the poor. In fact, Weitz-Shapiro explained that "[a]lmost universally, scholars of clientelism treat and analyze [this] practice as an exchange between politicians and their poor clients" (Weitz-Shapiro 2014: 12; my emphasis).

However, this canonical predictor has recently been contested (Hicken 2007: 55). Szwarcberg (2013: 32) "challenges the assumption [that brokers] with access to material benefits will always distribute goods to low-income voters in exchange for electoral support," while González-Ocantos et al. (2012) and Holland and Palmer-Rubin (2015) found that income (measured at the individual level) had little or no effect on vote-buying. In fact, Figure 1 shows that non-poor individuals in Brazil did receive clientelist offerings. *Why would brokers target non-poor individuals?*

And relatedly, *why does contemporary scholarly work report null findings for poverty, traditionally the most important predictor of vote-buying?* I present an argument where individual income alone is not relevant (similarly, see Weitz-Shapiro 2012: 568). What matters is how noticeable individuals are. Wealthier individuals living in poor contexts and poor individuals living in non-poor contexts are more identifiable, increasing their respective probabilities of being targeted. I also contend in this article that, in low-information environments, brokers use these kinds of observables to reduce the probability of defection of their clientele.

Another often-considered contextual factor in the literature is the size of the community in which clientelism takes place. Large-sized communities impose severe principal-agent problems. Stokes (2005: 323) explained that the “community structure” mediates the incentives to defect. Large communities make voters more anonymous, increasing their probability of defection. In fact, Rueda (2017: 164) found that in Colombia vote buying is more effective in contexts of small polling places.

Figure 1. Individual Wealth and Vote-Buying in Brazil



Note: Following the advice of Córdova (2008) and Córdova and Seligson (2009, 2010), different socio-economic variables in The Latin American Public Opinion Project (2010) dataset were used to construct a relative wealth index (RWI). With this information, in addition to the frequency of clientelism question (*clien1*), the figure shows that clientelist brokers target individuals at all levels of income.

Several scholars have then argued that brokers prefer smaller groups because individuals nested in small communities should defect less (Brusco, Nazareno, and Stokes 2004; Kitschelt and Wilkinson 2006: 10; and Magaloni 2008: 67. See also Bratton 2008, for Nigeria, and Gingerich and Medina 2013: 456, for Brazil). Yet, even when brokers might prefer to target small communities (with fewer voters relative to large communities), it is not clear how political parties gain enough electoral returns, especially considering that clientelism is expensive.

Vote-buying is an expensive strategy (Zarazaga 2014: 35), and more so when clients are individually targeted.<sup>3</sup> Stokes (2005: 317) argued that brokers develop skills that allow them to infer whether individual clients in small-sized communities voted for their party by looking at them in the eyes. Gay (1993, 1998) documented similar findings for the Brazilian case. This strategy requires brokers to sustain close relationships over time with their clients in a personal and individualized way. Knowing the clients' needs, delivering them benefits, monitoring their political behavior (and punishing them in case of defection), all in an individualized fashion, makes this strategy an extremely expensive choice – and it becomes even more expensive as more individuals are added to the broker's portfolio.

The cost of individual targeting increases linearly with the size of the targeted population (Hicken 2007: 56). This intuition is important because the brokers' production-possibility frontier cannot be shifted upwards either. Since the number of brokers is a depletable resource, at some point party machines run out of brokers, implying that monitoring capacities are bounded. In fact, Auyero (2000: 74) explained that the capacity brokers have to deliver benefits is "finite," and "only for a restricted number of people." However, and despite this constraint, brokers still have incentives to secure a large number of votes. Yet, the literature explains that clientelism should decrease in large communities. However, it is hard to conceive that brokers will stop being clientelist just because the size of the population is large. *A priori*, it seems a missed opportunity for brokers to let go of a large number of votes. In fact, survey data for the Brazilian case indicate that inhabitants of large, medium, and small municipalities are targeted in virtually the same proportion (Speck and Abramo 2001: 2). This article explains that when

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3 Dixit and Londregan (1996: 1147) explained that brokers track "constituents' likes and dislikes, *compulsively* participating in a spectrum of events [such as] baptisms and bar mitzvahs, weddings and funerals [and even, holding] *daily* meetings with constituencies [even] *after* nine o'clock [hearing] what anyone wished to tell [them]" (My emphasis).

brokers need to secure large amounts of electoral support, especially when political competition is high, they turn to group-targeting strategies, relying on the spillover effects of clientelism. In these contexts, clientelism mobilizes electoral support from “actual” and “potential” beneficiaries, minimizing the costs of clientelist targeting while maximizing electoral benefits, a mechanism that I explain later on in the paper.

Civic associations might help solve some of the challenges large-sized groups present to brokers. As low-information environments prevent brokers from really observing individual electoral behavior (Zarazaga 2014: 35), they usually resort to alternative methods that allow them to make safer inferences. For example, Schaffer and Baker (2015: 1094) argued that clientelism is “socially multiplied” as party machines target individuals “who are opinion-leading epicenters” in informal situations, or “partisan networks” (Calvo and Murillo 2013), in what has been called “organization buying” (Stokes et al. 2013: 250–251).<sup>4</sup> If parties buy “turnout” (Nichter 2008), then they will most probably target associations too, as “citizens immersed in clientelist networks [...] have a higher probability of voting than the rest” (Carreras and Castaneda-Angarita 2014: 7). I acknowledge the positive relationship between group membership and clientelism. However, what has not been explored yet is whether clientelism is explained by association membership itself, or by the fact that poor individuals usually address their problems as a *group*, since otherwise it would be too costly to solve them individually. If this is the case, group membership should be spuriously related to clientelism. While I find that group membership does have a positive effect on clientelism, I find that structural contexts that foster group-targeting have even more explanatory power.<sup>5</sup>

Moving forward, Weitz-Shapiro’s (2012) important paper found that in several Argentine municipalities, higher levels of political competition and low socioeconomic levels fostered higher levels of clientelism. In her paper, losses are conceptualized in terms of “moral costs.” Evidence for these types of costs has been presented in the literature very recently. For example, Carlin and Moseley (2015) argued that citizens

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4 Holland and Palmer-Rubin (2015: 16) explained that when “parties lack their own brokerage networks [they seek] to capitalize on organizational networks instead.” Similarly, Rueda (2015: 13) argued that parties tend to target very specific civic associations of “seniors and associations of single mothers, organizing trips to recreational centers outside the city where all their expenses are covered.” Paradoxically, the stronger the civic society (that is, the more organized it is), the more clientelism there is.

5 These results are presented in Figure A4.

endowed with more democratic values feel more “moral repugnance” to clientelism. Vicente (2014) showed that vote-buying practices have an “immoral/illegal connotation,” while González-Ocantos et al. (2012) found that individuals wanting to avoid social stigma usually do not give truthful answers when asked directly about clientelism. Building on this literature, I contend that when political competition is high, clientelism will be higher in contexts where poor individuals live in poor economic contexts.

## When Do Parties Target Individuals and When Groups?

Table 1 presents four ideal types in four quadrants; cases where individuals are highly identifiable; that is, non-poor individuals living in poor areas (Q1), and poor individuals living in non-poor areas (Q4). Identifiability in these cases reduces the cost of defection, permitting clientelist brokers to closely target individuals. While individual targeting is more expensive, it is also safer (compared to group targeting). The table also shows cases where individuals are hard to identify; that is, poor individuals living in poor areas (Q2), and non-poor individuals living in non-poor areas (Q3). In these cases, voters are more anonymous, making direct individual-based targeting and monitoring more costly. Since brokers still have incentives to seek electoral support, they engage in group targeting by relying on the spillover effects of clientelism. In these cases, the effects of vote-buying disseminates by mobilizing targeted voters and latent untargeted (but potential) clients. This form of targeting is cheaper but more uncertain.

Table 1. Strategy Set: Group versus Individual Targeting

	<b>Non-Poor Individuals</b>	<b>Poor Individuals</b>
High Competition	Poor Areas, identifiable, individual targeting.	Poor Areas, spillover effects, group targeting, cheap vote-buying.
Low Competition	Non-Poor Areas, group targeting, expensive vote-buying, lack of checks and balances, embezzlement.	Non-Poor Areas, identifiable, individual targeting.

Source: Author's compilation.

## Individual Targeting

This is the safest bet a broker can make, but also the most expensive one, as it requires brokers to have sustained closed relationships with their clients. For instance, Zarazaga (2014: 26) stated that “brokers have detailed information about their neighborhood and clients’ needs.” Keeping track of every single client (and their respective needs) is an expensive strategy. After all, as Auyero (2000: 73) put it, brokers are “problem solvers.” Importantly, the kind of care given ranges from material needs to symbolic and immaterial necessities, making clientelism a relationship based on “trust, solidarity, reciprocity, caring, and hope.” Such broker-client symbiosis is both material and personal-intensive, making it very costly. As an investment, however, it pays off electorally. The same detailed information brokers have about their clients’ needs is then used to infer coercively (or know directly) the electoral behavior of their respective clientele, administering punishments or rewards accordingly (Stokes 2005: 317).

The transaction costs of clientelism are reduced by targeting identifiable clients. In 2009, Luna et al. (2011) made extensive participant observations in several campaigns, accompanying a number of candidates for several months in their campaigns for the legislative election in Santiago de Chile. With one incumbent, we spent considerable time on the ground, traveling in her district. On several times, as we drove throughout the district in her personal car, the candidate was able to recall who the head of household was (including his/her name), what her district office had contributed to solve their needs, and whether the household members were on good terms with her.<sup>6</sup> Importantly, the economic diversity of the district provided a number of useful observables. In non-poor areas, poor houses with an unpainted wall, a rusty front yard fence, a two-story house with a bodega market on the first, a household with a broken window, or a junk diesel truck aground in the front yard, among others, provided distinctive points of reference. Identifiability, as an observable, made these receivers less anonymous, raising their cost of defection and making them more prone to cooperate. Table 1 portraits individuals living in these heterogenous contexts in Q4.

Households in Q4, being more noticeable, stand out in their respective contexts, making it easier for brokers to notice whether they need construction materials, whether there are wakes to which they could contribute flowers or birthday parties to which they could bring cakes. In

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6 The actual gender of the candidate might have been changed for confidentiality purposes.

addition, it makes their possible defection more obvious and memorable for the brokers. In summary, higher levels of visibility supply brokers with good-quality information about their clients.<sup>7</sup> In addition, when political contestation is low, the demand for votes is less astringent, shaping brokers' incentives to target in a more accurate, less massive fashion, identifiable and particularized individuals, not groups.

The capacity brokers have to identify potential clients not only comes from third-party sources, as the "organization buying" proponents explain (Holland and Palmer-Rubin 2015; Rueda 2015 and Stokes et al. 2013). In a similar account, others have pointed out that brokers are also "reliable neighbors" (Zarazaga 2014: 38); that is, members of the same community of targeted individuals. Acknowledging this approach, the argument presented in this article contends that brokers have incentives to expand their immediate local networks by colonizing visible targets outside of their own proximate neighborhood. By conceptualizing brokers as active political entrepreneurs who seek new supporters outside of their immediate context, the proposed framework complements other accounts, as presented in Szwarcberg (2013: 32) or Zarazaga (2016: 681), where brokers are neighborhood party agents. Clientelist entrepreneurship can be performed directly or indirectly. For instance, Auyero (2000: 65–66) described the situation of Cholo, a member of the inner circle of one of the brokers in Buenos Aires, Argentina, who visited "other poor neighborhoods of the area adjacent to" the place where the broker (and himself) lived, to spread news about some government plan, the governor, and the Peronist party, but importantly, also reporting to the broker any unattended material needs he had noticed. This illustrates how, via different channels, brokers expand their client portfolio outside of their immediate community.

An important implication is that individual poverty does not play a role by itself. Non-poor individuals living in poor areas (Q1) are also noticeable, and consequently, possible targets as well. Political competition shifts the demand for votes upwards. As elections become more contested, brokers need to secure even higher levels of electoral support. Since newly elected representatives are more likely to bring new people to their machines, brokers are also interested in seeing their candidates elected. Consequently, brokers will have even more incentives to engage in clientelism when political competition is high. In these cases, political competition is high enough to even mobilize non-poor individuals in a

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7 Importantly, poor households do not need to be close to each other, but visible enough.

clientelist way. Since these votes are more expensive to purchase (given decreasing marginal utility from income, see Stokes 2005: 321), this strategy is less preferred. However, costly clientelism is worth the investment given the risk of losing the election.

## Group Targeting

This is the least accurate targeting strategy, but also the cheapest one available to brokers. It leverages the spillover effects provided by larger concentrations of individuals who share the same socio-economic backgrounds. This strategy is less accurate because it mobilizes electoral support from “actual” clients (individuals who have actually been targeted), and “potential” clients (individuals who have not received benefits yet). It is preferred when poor individuals are nested in poor areas (Q2), or vice-versa (Q3). In these cases, individuals are masked by their environments, which means that identifiability is hard to achieve. As explained before, identifiability facilitates individual targeting, an important factor in reducing the probability of defection of targeted clients. When individuals are hard to identify, however, individual targeting becomes prohibitively expensive. Yet, brokers who still need to secure electoral support do not opt out of clientelism and instead turn to group targeting.

Auyero (2000: 65) described the case of Alfonsina in Argentina. Alfonsina was part of the broker’s inner circle and got a job as a cleaning lady in a public school. As the broker explained to her, before getting the job, Alfonsina had to be *patient* because as a member of “the circle,” she was in the pool of potential beneficiaries; it was only a “matter of time” until she could get the job. The idea of expectations and hope are important. Auyero explained that the

*hope* of a job serves as important glue within the inner circle. Although not everyone is employed at the municipality, the fact that someone gets [a] job has an important *demonstration* effect. (Auyero 2000: 65; my emphasis)

Building on this intuition, two ideal types are suggested: actual and potential beneficiaries. The former receive particularistic benefits “today” and vote for the broker’s candidate “tomorrow,” while the latter do not receive benefits “today” (in the expectation of receiving them in the future) but still vote for the broker’s candidate “tomorrow.”

Group targeting is cost-effective because it mobilizes two types of voters at the cost of investing in just one (i.e. the “actual”). Actual beneficiaries want to remain actual beneficiaries since they want to keep re-

ceiving benefits; thus, they keep supporting the broker's candidate. In turn, potential beneficiaries want to become actual beneficiaries, but are uncertain when that might happen; as a result, they also support the broker's candidate. In this sense, from the broker's perspective, this strategy reduces the sunk costs by half, multiplying the gross benefits by two. In other words, the broker's reputation of a "problem solver" disseminates twice as fast relative to individual targeting. It is in this sense that this is a massive (but less precise) form of clientelist targeting.

Given that potential clients support the broker's candidate in the absence of current inducements, brokers need to effectively calibrate the timing when potential beneficiaries become actual beneficiaries. In other words, brokers need to infer the discount factors of their potential clients, making it expensive for them to defect. Reputation, as a form of capital, is fundamental for brokers since "voters prefer to support [brokers] with a reputation for delivering because they are a more reliable source of future rewards" (Zarazaga 2014: 24). However, potential clients are also interested in investing in their reputation. From their perspective, they know that the flow of resources is dependent on the brokers' electoral success. Also, they do not know whether new brokers might have access to fewer resources or distribute them to other people. For them, the cost of switching brokers (or defecting) is very high since it also involves building relationships of confidence with another broker from scratch, which is costly. Hence, the incentives are for the broker to deliver benefits before it is too late, while the incentives for the potential client are to support the broker's candidate.

Since it does not matter what type an individual is, both actual and potential beneficiaries keep voting for the broker's candidate. While cost-effective, group targeting is less accurate since brokers hope to mobilize potential beneficiaries only indirectly; that is, by targeting actual beneficiaries. This makes this strategy a fragile one. However, besides the reputation costs described above, low-income voters have additional incentives to support the broker's candidate. This is described in Q2. Given that the poor are risk-averse, potential beneficiaries are better-off waiting (and voting for the broker's candidate) than defecting. In the same vein, but on a slightly different subject, Magaloni (2008: 20) posited that the Mexican PRI lasted as long as it did not because of electoral fraud but because voters supported the "known devil." Economic underdevelopment played a fundamental role in this equilibrium as well. Finally, higher levels of electoral contestation force brokers to engage in this less accurate, but massive form of clientelist targeting, leveraging (1) the incentive structure of potential clients to support the candidate even in the ab-

sence of current inducements, and (2) the higher levels of risk aversion poor individuals have.

Importantly, vote-buying is also targeted to non-poor individuals nested in non-poor groups (Q3). Vote-buying has decreasing returns to scale in non-poor individuals. That is, wealthier individuals derive fewer advantages from a bag of rice relative to poorer individuals (Kitschelt 2000). Anticipating this, brokers will not offer the same benefits to wealthy individuals, but will customize the type of offerings. This distinction is important, since most of the literature assumes that clientelist practices decrease when individual incomes rise. However, that approach does not explain the counterintuitive empirical regularity depicted in Figure 1; that is, non-poor individuals get targeted too. *Why are non-poor individuals targeted?* This article seeks to contribute to the literature by explaining that brokers make their offers more attractive to non-poor individuals by offering goods that are relatively more expensive. This is more likely when districts are wealthier.

While buying votes from non-poor individuals costs more, brokers in non-poor areas have more resources to spend. Along the same lines, Hicken (2007: 55) questioned the implicit assumption that the broker's vote buying funds remain fixed; stating that "a candidate's capacity to buy votes increases commensurate with increases in average incomes." In other words, higher levels of economic development not only raise personal incomes, but also shifts the broker's vote-buying capacities upwards. Similar evidence has been found in the Philippines (Schaffer 2004). The link between higher incomes and vote buying is particularly relevant for Brazil, since its electoral laws allows political parties to get *unlimited* funds (Abramo and Speck 2001: 14), enabling brokers greater capacities to buy more expensive votes.

Besides having more resources to spend, brokers in politically uncontested districts have fewer political constraints, facilitating the spending of expensive clientelism. In Q3 it is suggested that lower levels of political contestation allow brokers to spend on more expensive means of clientelism. Uncompetitive districts lack proper *de facto* mechanisms of checks and balances, giving local incumbents more "room to move," allowing them to divert local resources into more expensive means of targeting. I call this "embezzlement clientelism." Given these relatively more expensive costs, however, I expect this form of clientelism to be less frequent. In a dynamic similar to Q2, potential clients also support the broker's candidate, hoping to become actual beneficiaries. However – and unlike poor clients in Q2 – non-poor clients in Q3 (both actual and potential) have smaller discount factors. That is, non-poor individ-

als – given their relatively higher incomes – have more “patience.” This is especially important for brokers. In practice, potential clients’ timing constraints are more elastic, putting less pressure on brokers to deliver benefits in the short run.

## Case Selection, Research Design, and Data Analyses

### I. Data

This section empirically tests the theoretical proposition stated in Table 1 – that is, the combined effects of individual income, of being nested in poor/non-poor communities, and being exposed to different levels of political competition – on receiving clientelist benefits. Brazil is a good case because its poverty structure is such that it is possible to find low-income individuals nested in non-poor areas (and vice versa). This case is also interesting from an institutional perspective. The Brazilian electoral system incentivizes clientelism. Several factors such as multimember districts with open lists, and the institution of the *candidato nato*,<sup>8</sup> “clearly [makes] Brazil one of the most personalistic systems of democratic governance” (Kitschelt and Altamirano 2015: 257), which might foster higher levels of clientelism. In fact, Gingerich (2014: 290) found that vote-buying drastically changed electoral results, concluding that “[v]ote brokerage can still pay electoral dividends in contemporary Brazil.”

To test this hypothesis, I use survey data from 2010 from The Latin American Public Opinion Project (LAPOP) (2010).<sup>9</sup> Though the LAPOP survey provides a question for income, people who are somewhat better off than their neighbors but live in poor areas may not “feel” poor. If this is the case, it could confound the results. Additionally, when answering the questioner, individuals might not want to reveal their true incomes (either because they are too low or too high). Following the advice of Córdova (2008) and Córdova and Seligson (2009, 2010), a

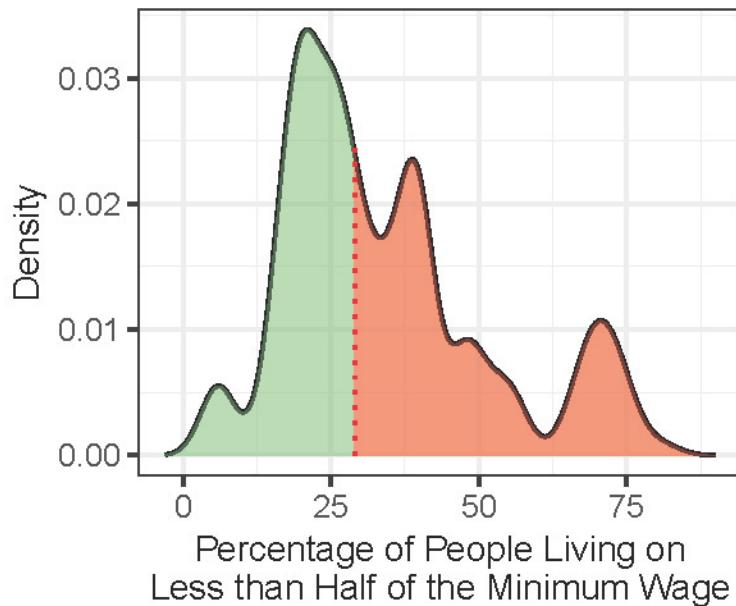
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8 “[R]ule that removed parties’ control over the nominations process and let an electoral legislator decide to run on any party ticket.” See Kitschelt and Altamirano (2015: 257).

9 “I thank the Latin American Public Opinion Project (LAPOP) and its major supporters (the United States Agency for International Development, the United Nations Development Program, the Inter-American Development Bank, and Vanderbilt University) for making the data available.” The sample consists of five strata representing the five main geographical regions of Brazil. Each stratum was further sub-stratified by urban and rural areas.

relative wealth index (RWI) was constructed (see also Santos and Villatoro 2018). Using principal component analyses, the index measures wealth based on actual assets weighted by how common these assets are. Different indices were constructed for urban and rural contexts. Figure 1 plots the distribution of the index.

Figure 2. Distribution of the Density of the Poor



Note: Employing Brazilian census data from the IBGE (2010), the figure shows the percentage of individuals who live on less than half of the minimum wage in a given municipality. While individual income is measured using the relative wealth index (in Figure 1), the variable plotted here is used to measure economic development at the group level. Due to statistical reasons explained in this paper, the variable had to be dichotomized at its median (29 percent). However, in separate statistical analyses shown in Table A3 (weighted model), the variable is used without dichotomizing it, showing the same results.

## II. Main Variables of Interest

To measure economic development at the group level, I constructed a variable that I call “the density of the poor” following a strategy similar to that of Weitz-Shapiro (2012). The variable, which is plotted in Figure 2, measures the degree of poverty at the municipal level. Using information from the 2010 Brazilian census,<sup>10</sup> a semi-continuous variable was constructed to measure the percentage of individuals who live on less than half of the minimum wage in a given municipality. Given that the

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<sup>10</sup> Official data comes from the Bureau of Statistics of Brazil IBGE.

municipality of residence for each individual in the LAPOP survey is recorded, I was able to merge the census percentage with the LAPOP dataset. It is important to stress that the unit of analysis is the individual, and that this variable captures the economic context in which each individual lives. Just like other scholars in the past have tested the effect of being nested in rural areas,<sup>11</sup> this paper focuses on another class of contextual variable. Although the density of the poor group was originally a semi-continuous variable (that is, a percentage), it had to be dichotomized at the median (29 percent) to be able to construct a matched sample, which I justify and explain below. Figure 2 shows the continuous distribution dichotomized at the median (dotted line).

Finally, to measure political competition, I again follow Weitz-Shapiro (2012). Using official electoral data from the 2008 municipal elections,<sup>12</sup> I constructed a variable that measures the percentage of seats that are not controlled by the mayor's party in a given municipal council.

### III. Matched Design

There is a built-in lack of relationship between “being poor” and “living in a poor municipality,” confirming that Brazil is in fact a good case to test this theory. Figure A1 in the Appendix shows that the unmatched/raw dataset already has embedded low levels of correlation between these two variables ( $r = -0.44$ ).<sup>13</sup>

I was able to break this relationship down further using matching methods. Matching is a two-stage process. In the first stage, the analyst “preprocesses” the data, seeking to break any systematic relationship between, in this case, the density of the poor and the relative wealth index RWI (Ho et al. 2011). Matching does so by deleting observations for which similar observations cannot be found.<sup>14</sup> The idea is to obtain a good covariate balance, as in Figure A3 (in the Appendix), to then estimate any appropriated statistical model.<sup>15</sup> From a statistical standpoint,

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11 See, for example, Brusco, Nazareno, and Stokes (2004) and Stokes (2005). Both studies used the log of population, which is a proxy for urban/rural.

12 Data from the Tribunal Superior Eleitoral.

13 The figure shows that, for both the matched and raw datasets, “being poor” and “living in a poor municipality” are not confounded, as it is possible to find poor individuals living in non-poor areas, and vice versa.

14 The final procedure matched 761 individuals living in the low-density poverty condition with 676 individuals living in the high-density poverty condition.

15 The idea is that the propensity of being exposed to the “high” density of the poor condition (or “propensity score”) has a similar distribution in both “treat-

preprocessed datasets are less model-dependent (Ho et al. 2007),<sup>16</sup> and prevent analysts from making extreme counterfactuals.<sup>17</sup> The preprocessed data used in the matching approach has 54 municipalities, while the raw data used in the generalized propensity score (GPS) approach (which I explain below) also has 54. Figure 3 lists the municipalities and shows which ones are considered “high” or “low” in terms of the density of the poor after the dichotomization process. The figure also shows that there is considerable variance in income/RWI in both high- and low-poverty density conditions (bubbles).<sup>18</sup>

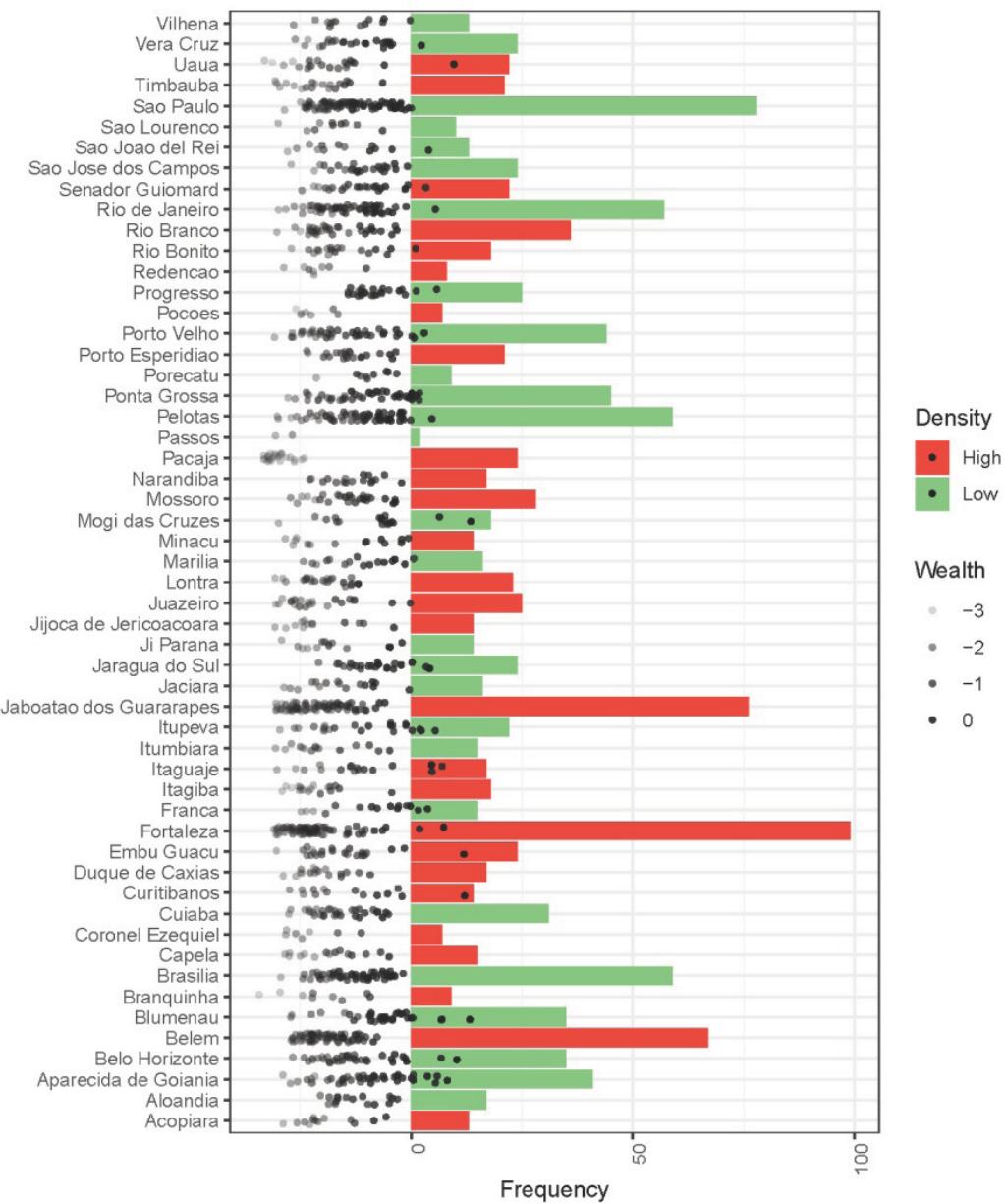
One could argue that dichotomizing the density of the poor variable at the median is an arbitrary decision. While there have been theoretical advances regarding general treatment effects regimes for continuous or semi-continuous response doses (Imai and Dyk 2004; and Hirano and Imbens 2004), algorithms with the ability to match on continuous treatment variables are not common. In order to obtain covariate balance in a non-parametric way (as matching does) but without dichotomizing the density of the poor, I also use the original (that is, continuous) density of the poor variable to construct a generalized propensity score GPS (Imbens 2004; Guardabascio and Ventura 2014; and Imai and Ratkovic 2014).<sup>19</sup> The score is used to weight each observation in the model.<sup>20</sup>

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ed” and “control” groups. It is important to note that, despite the language, I do not claim any causal relationship in this paper.

- 16 Table A2 and Table A1 in the Appendix provide summary statistics for both the matched and raw datasets. Tables were generated using the *stargazer* R package. See Hlavac (2015).
- 17 King and Zeng (2005). The matching routine used was the *full* matching routine (Hansen 2004; Rosenbaum 2010), via the *MatchIt* R package (Ho et al. 2011).
- 18 Figure A2 in the Appendix shows the frequency of individuals by municipality in both raw and matched datasets.
- 19 To generate the weighting vector, I used the *CBPS* R package (Fong et al. 2018).
- 20 Besides matching on and weighting by the RWI index, I also included the following variables to match on/weighting by: municipal opposition, municipal population and individual involvement in civic associations.

**Figure 3. Distribution of Observations by Municipality, Wealth Index and Density of the Poor**



**Note:** The figure shows the municipalities in the analyses (matched set). For every municipality, the figure shows (1) the number of inhabitants (Y-axis), and (2) whether the municipality is considered having a high or low density of the poor. High-density municipalities have more than half of their inhabitants living on less than half of the minimum wage. The figure also shows (3) individual wealth indexes (bubbles).

## IV. Model Specification

The dependent variable is clientelism. To measure it, I use the question that asks if a candidate or someone from a political party offered the respondent something, like a favor, food, or any other benefit or thing in return for her/his vote or support. Subjects could answer that this had happened often, sometimes, or never. Carreras and Irepoğlu (2013) and Holland and Palmer-Rubin (2015) used the same dataset and outcome variable. As they explained, the question did not ask whether respondents took the offer, hence it should not be an important source of social desirability bias (González-Ocantos et al. 2012). For statistical and substantive reasons, I dichotomized this variable, combining the alternatives often ( $n = 91$ ) and sometimes ( $n = 150$ ), leaving never ( $n = 1,196$ ) unchanged.<sup>21</sup>

The following control variables were considered in the statistical analyses. Perception of corruption was included to hold constant the effect of respondents who declared clientelist activity when in reality they were referring to corruption scandals.<sup>22</sup> Brokers usually target civic associations. Following Holland and Palmer-Rubin (2015: 28), an additive index to measure civic participation (Political Involvement) was created.<sup>23</sup> Some studies have also found group size to be important (Stokes et al. 2013). A variable to measure population size at the municipal level was constructed using Brazilian census data.

Following the convention in statistical studies of clientelism, an urban/rural dummy was also included. Some have argued that parties target their own supporters (Dixit and Londregan 1996, and Cox and McCubbins 1986), moderate opposers (Stokes 2005), or unmobilized supporters (Nichter 2008). To keep these effects constant, a variable to capture party identification (Political Id.) was included. Higher levels of democratic support should be negatively associated with clientelism. To control for that, a variable measuring democratic support was included. González-Ocantos, Kiewiet de Jonge, and Nickerson (2014) found that schooling plays a negative role on clientelism; hence, I control for education too.

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21 These numbers come from the matched dataset.

22 I thank Cesar Zucco for this suggestion.

23 This variable was constructed by adding the frequency of attendance at religious meetings, community improvement meetings, and political party meetings (variables  $\phi 6$ ,  $\phi 8$  and  $\phi 13$ , respectively).

## V. Functional Form

Observations are clustered on a number of important factors such as levels of municipal political competition, municipal poverty, and municipal population size. In order to account for these clustering effects, I use a “generalized estimating equations” approach. GEE were introduced by Liang and Zeger (1986) to fit clustered, repeated (that is, correlated), and panel data. This method is especially efficient when the data are binary (Hanley et al. 2003). GEE models are similar to random effects models (Gardiner, Luo, and Roman, 2009), in that they allow observations to be nested in hierarchical structures. This method requires analysts to parameterize the working correlation matrix. While Hedeker and Gibbons (2006: 139) stated that “the GEE is robust to misspecification of the correlation structure,”<sup>24</sup> Hardin and Hilbe (2013: 166) pointed out that “[i]f the observations are clustered (not collected over time), then [...] the exchangeable correlation structure” is the most appropriate working correlation matrix. Given that the data do not follow a panel but rather a clustered structure, the “exchangeable” correlation matrix was specified in all models.

While this method is very flexible, GEE estimates remain uninterpretable in practice (Carlin et al. 2001), making regression tables useless from a substantive standpoint. In this case, the problem is even more severe due to the interactive nature of the hypothesis being tested in this paper, which is a parameter for the multiplicative term between the variables wealth index, political competition, and density of the poor.<sup>25</sup> Methodologists agree about “not interpret[ing] the coefficients on the constitutive terms,” as they lack substantive meaning (Brambor, Clark, and Golder 2006: 77). These problems become more complex when it comes to generalized models, as a number of challenges arise.<sup>26</sup> Given that cross-partial derivatives are not advisable either, simulation methods

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24 Carlin et al. (2001: 402) argued that “[r]elatively minor differences in estimates may arise depending on how the estimating equations are weighted, in particular within the generalized estimating equation (GEE) framework.” Westgate and Burchett (2017) and Gardiner, Luo, and Roman (2009, 227) made the same point.

25 Brambor, Clark, and Golder (2006: 74) offer the same advice.

26 As Ai and Norton (2003) explained, “(1) the interaction effect could be non-zero, even when the estimation says it is zero, (2) the statistical significance of the interaction effect cannot be tested with a simple t-test on the coefficient of the interaction term, (3) the interaction effect is conditional on the independent variables, [...] and (4) the interaction effect may have different signs for different values of covariates.”

are required (Zelner 2009). In particular, I follow the simulation approach introduced in King, Tomz, and Wittenberg (2000). This procedure samples via simulation from the point estimates, generating a new and larger distribution. In more detail, taking the single estimated parameters (that is, the regression coefficients), I constructed a distribution of estimated values for each coefficient. Relying on the central limit theorem, with enough sampling draws, the new simulated distribution is a transformation that approximates with a great degree of precision the (uninterpretable) coefficients. Subsequently, means and uncertainty measures can be constructed for each of these distributions. From a substantive standpoint, simulation methods also allow for the sampling of new distributions at different values of the independent variables. This will be important in simulating the expected value of clientelism for different “profiles,” such as non-poor individuals nested in high-poor dense municipalities in contexts of high political competition, among other profiles.

Since it is “impossible to evaluate conditional hypotheses using only the information provided in traditional results tables” (Brambor, Clark, and Golder 2006: 76), I have focused instead on the substantive results from the simulation methods. However, I still present the raw results in Table A3 in the Appendix.<sup>27</sup> Analogous to Table 1, in Figure 4 I simulate the predicted probabilities of being targeted using both the matched and weighted/GPS models. The horizontal panel depicts simulations for the “upper” (“non-poor,” 75 percent) and “lower” (“poor,” 25 percent) quartiles of the wealth index. In turn, the vertical panel shows the simulated values for the maximum (100 percent) and minimum (43 percent) values of the municipal opposition index. Each quadrant shows simulations for individuals nested in poor municipalities (high density of the poor), and non-poor municipalities (low density of the poor). Each profile shows two simulated probability distributions (with 95 percent confidence intervals): one for the matched sample, and one for the weighted/GPS model.<sup>28</sup> The idea is to show that the decision of dichotomizing the density of the poor variable at its median gives substantively

27 Table generated via the *texreg* R package. The first column shows the estimates for the matched dataset, while the second column shows the results for the GPS-weighted model. Virtually all coefficients have the same size and sign.

28 In the case of the weighted/GPS model, which does not use the dichotomized variable, I use the continuous version of the size of the poor variable, where “low density” represents the lower quartile while “high density” represents the upper quartile.

exact results than using the continuous version of that variable via the GPS analysis.

## VI. Results

All quadrants in Figure 4, regardless of the approach used,<sup>29</sup> suggest that brokers engage in individual targeting when individuals are identifiable, and in group targeting when brokers need to rely on the spillover effects of clientelism.

In Q1, clientelism is more likely (with a 26 percent probability) in situations where non-poor individuals are nested in poor groups (i.e. where the density of the poor is “high”)<sup>30</sup> and living in electorally contested municipalities. As I have argued, these types of individuals are still targeted because they are more identifiable. For instance, a similar individual (same quadrant) who is nested in a non-poor group (“low” density of the poor), and consequently harder to identify, has a much lower probability of being targeted (7 percent). Similarly, individuals in Q4, such as poor individuals nested in non-poor areas (“low” density of the poor), and living in lowly contested municipalities, are more likely to be targeted (13 percent) relative to harder-to-identify individuals who live in poor areas (11 percent). In Q1, higher levels of electoral competition put heavier pressure on brokers to mobilize more expensive ways of clientelism. These pressures decay when incumbents face lower levels of electoral contestation (Q4).

Figure 4 shows in Q2 that clientelism is more likely (25 percent) in situations where poor individuals are nested in poor groups (“high” density of the poor). As I have argued here, brokers will have incentives to engage in group targeting, taking advantage of the spillover effects of clientelism, leveraging the electoral support of potential clients by mobilizing actual clients. This is especially the case when the incumbent is seriously contested. Individuals that are similar (same quadrant), but nested in a non-poor group (“low” density of the poor), have a much lower probability of being targeted (12 percent). Individuals in Q3, who are non-poor individuals nested in non-poor areas (“low” density of the poor), and those living in lowly contested municipalities, are more likely to be targeted (24 percent) than similar individuals nested in non-poor areas (5 percent). Areas with higher levels of economic development also allow brokers to have more resources to distribute in what it was called

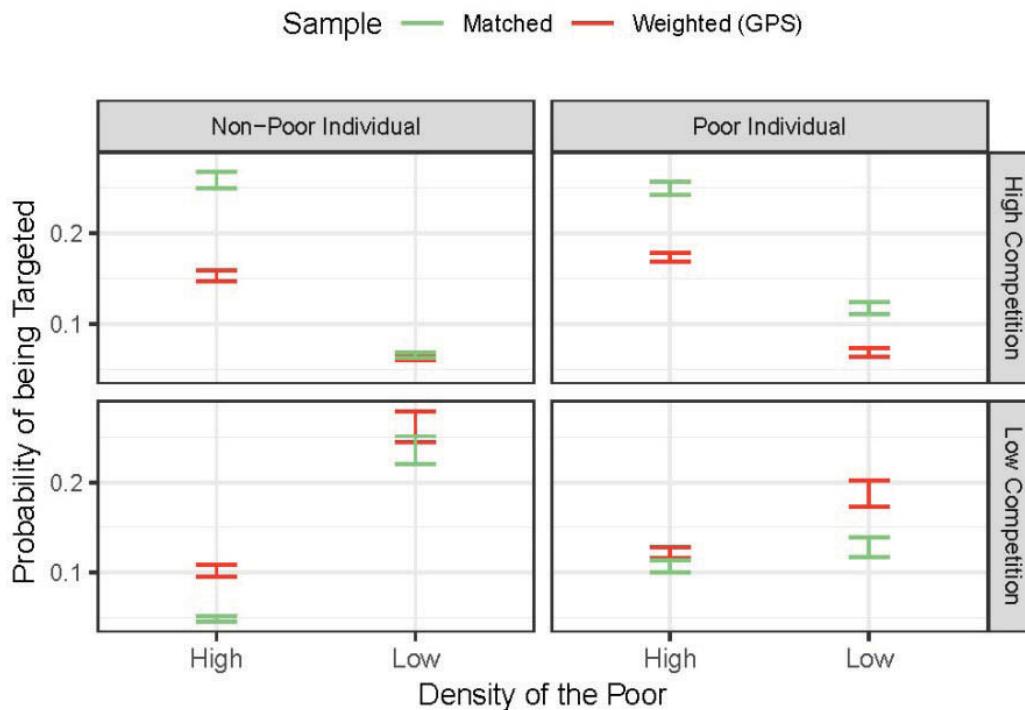
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29 Although there are statistical differences, the differences across datasets are proportional.

30 Matched sample.

“embezzlement clientelism.” Lowly contested municipalities give brokers and political incumbents more room to allocate and distribute more expensive goods. However, and as theoretically expected, given that the net costs of this form of clientelism are higher, this is the least likely form of clientelism (reflected in the lower probabilities).

Figure 4. Simulated Expected Values of Clientelism



Note: After fitting the models shown in Table A3, this figure shows the predicted probabilities of being targeted under different scenarios, with 95 percent confidence intervals. Substantively, the figure emulates the theoretical predictions shown in Table 1. Clientelism is higher when non-poor individuals are nested in poor groups (“high” density of the poor) in highly contested municipalities (Q1), when non-poor individuals are nested in non-poor groups (“low” density of the poor) in scarcely contested municipalities (Q3), when poor individuals are nested in poor areas in highly contested municipalities (Q2), and when poor individuals are nested in non-poor areas in scarcely contested municipalities (Q4). For every quadrant, estimates from both the matched and weighted datasets are shown. The idea is to show that the decision to dichotomize the density of the poor variable at its median (as shown in Figure 2) gives substantively exact results than using the continuous version of that variable via the GPS analysis.

## Discussion

This paper has argued that when poor individuals live in poor areas, brokers engage in group targeting relying on the spillover effects of clientelism. This strategy mobilizes targeted and untargeted clients by disseminating the broker's reputation of delivering benefits among potential beneficiaries. In a similar way, non-poor individuals clustered in non-poor areas are also targeted. In these cases, higher levels of economic development not only raise personal incomes, but also shift the broker's vote-buying capacities upwards. Lower levels of political contestation allow these more expensive forms of clientelism. However, in heterogeneous areas, brokers adapt their strategies and execute clientelism in a different way, relying on how identifiable individuals are. Identifiability raises the cost of defection by making their households more memorable, making receivers more likely to cooperate.

Incentives to offer or take clientelist offerings are not guided solely by structural or individual factors. This paper has suggested that both are necessary to understand clientelism better. Clearly, pressures to partake in clientelism, an expensive and uncertain strategy, rise as political competition raises (from 18 percent to 25 percent).<sup>31</sup> However, the outcomes of this strategy differ largely depending on whether brokers face homogeneous or heterogeneous groups of individuals. Each one provides a different cost/benefit structure for both clients and brokers. Finally, I hope that the literature considers that groups and individuals provide different incentives to both brokers and clients, and hence, this distinction should be incorporated to better understand clientelism.

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31 Grand mean considering the most likely scenarios only.

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# Appendix

Table A1. Summary Statistics: Raw Sample

	N	Mean	St. Dev.	Min	Pctl(25)	Pctl(75)	Max
Clientelism	1,483	0.171	0.376	0	0	0	1
Wealth Index	1,483	-1.543	0.846	-3.05	-2.261	-0.843	0.899
Municipal Opposition	1,483	81.761	11.821	43	75	89	100
Density of the Poor	1,483	2.435	1.12	1	1	3	4
Municipal Population	1,483	5.393	2.841	1	3	8	10
Urban	1,483	0.86	0.347	0	1	1	1
Political Involvement Index	1,483	1.792	1.619	0	0	3	9
Support for Democracy	1,483	5.426	1.682	1	4	7	7
Party Id.	1,483	5.939	1.15	1	6	6	12
Perception of Corruption	1,483	2.027	1.003	0	1	3	3
Years of Education	1,483	9.398	3.857	1	6	12	18

Table A2. Summary Statistics: Matched Sample

	N	Mean	St. Dev.	Min	Pctl(25)	Pctl(75)	Max
Clientelism	1,437	0.168	0.374	0	0	0	1
Wealth Index	1,437	-1.557	0.811	-3.05	-2.261	-0.866	0.899
Municipal Opposition	1,437	81.912	11.749	43	75	89	100
High Density of the Poor	1,437	0.47	0.499	0	0	1	1
Municipal Population	1,437	5.384	2.792	1	3	8	10
Urban	1,437	0.86	0.347	0	1	1	1
Political Involvement Index	1,437	1.784	1.613	0	0	3	9
Support for Democracy	1,437	5.417	1.684	1	4	7	7
Party Id.	1,437	5.934	1.16	1	6	6	12
Perception of Corruption	1,437	2.029	1	0	1	3	3
Years of Education	1,437	9.359	3.843	1	6	12	18

Table A3. Generalized Estimating Logistic Equations: Clientelism

	<b>Matched</b>	<b>Weighted</b>
(Intercept)	1.404 (1.968)	2.958 (2.691)
Wealth Index	1.374 (0.990)	1.320 (1.209)
Municipal Opposition	-0.040 (0.025)	-0.061 (0.032)
High Poor Density	-6.550** (2.399)	
Municipal Population	-0.115* (0.048)	-0.101 (0.053)
Urban	-0.091 (0.401)	-0.077 (0.416)
Political Involvement	0.046 (0.055)	0.047 (0.055)
Support for Democracy	-0.056 (0.046)	-0.051 (0.048)
Party Id.	-0.082 (0.053)	-0.087 (0.052)
Perception of Corruption	0.240** (0.088)	0.267** (0.089)
Years of Education	0.051* (0.021)	0.054** (0.020)
Wealth Index * Municipal Opposition	-0.018 (0.013)	-0.013 (0.015)
Wealth Index * High Poor Density	-2.509 (1.319)	
Municipal Opposition * High Poor Density	0.085** (0.030)	
Wealth Index * Municipal Opposition * High Poor Density	0.029 (0.016)	
Density of the Poor		-1.992* (0.921)
Wealth Index * Density of the Poor		-0.555 (0.372)
Municipal Opposition * Density of the Poor		0.024* (0.011)
Wealth Index * Municipal Opposition * Density of the Poor		0.005 (0.004)
Num. obs.	1,437	1,483
Num. clust.	54	54

Note: \*\*\* p < 0.001, \*\* p < 0.01, \* p < 0.05. Clustered standard errors at the municipality level. First column shows the estimates using the matched dataset. Second column shows the estimates of the weighted model (the generalized propensity score was omitted in the table). Both models are logit GEE.

Figure A1. Distribution of Pre- and Post-Matching Observations by Wealth Index and Density of the Poor

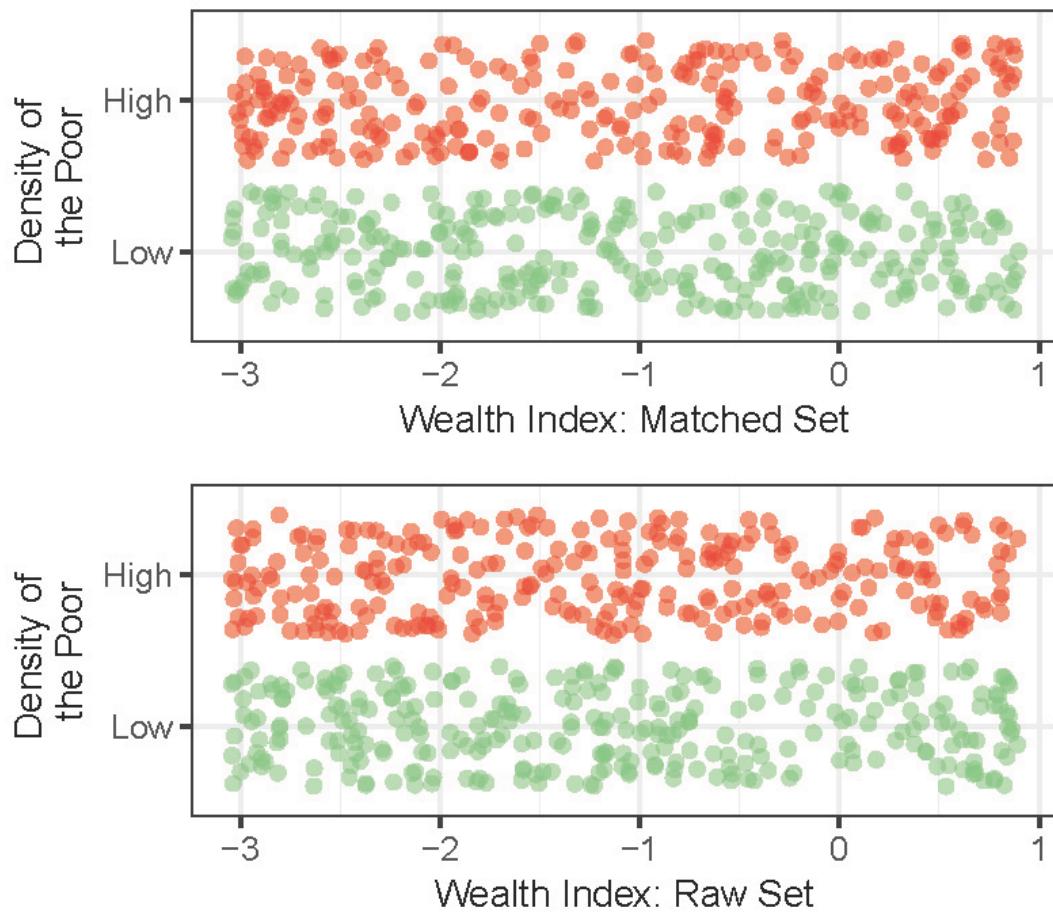


Figure A2. Frequency of Individuals by Municipality, Pre- and Post-Matching Deletion

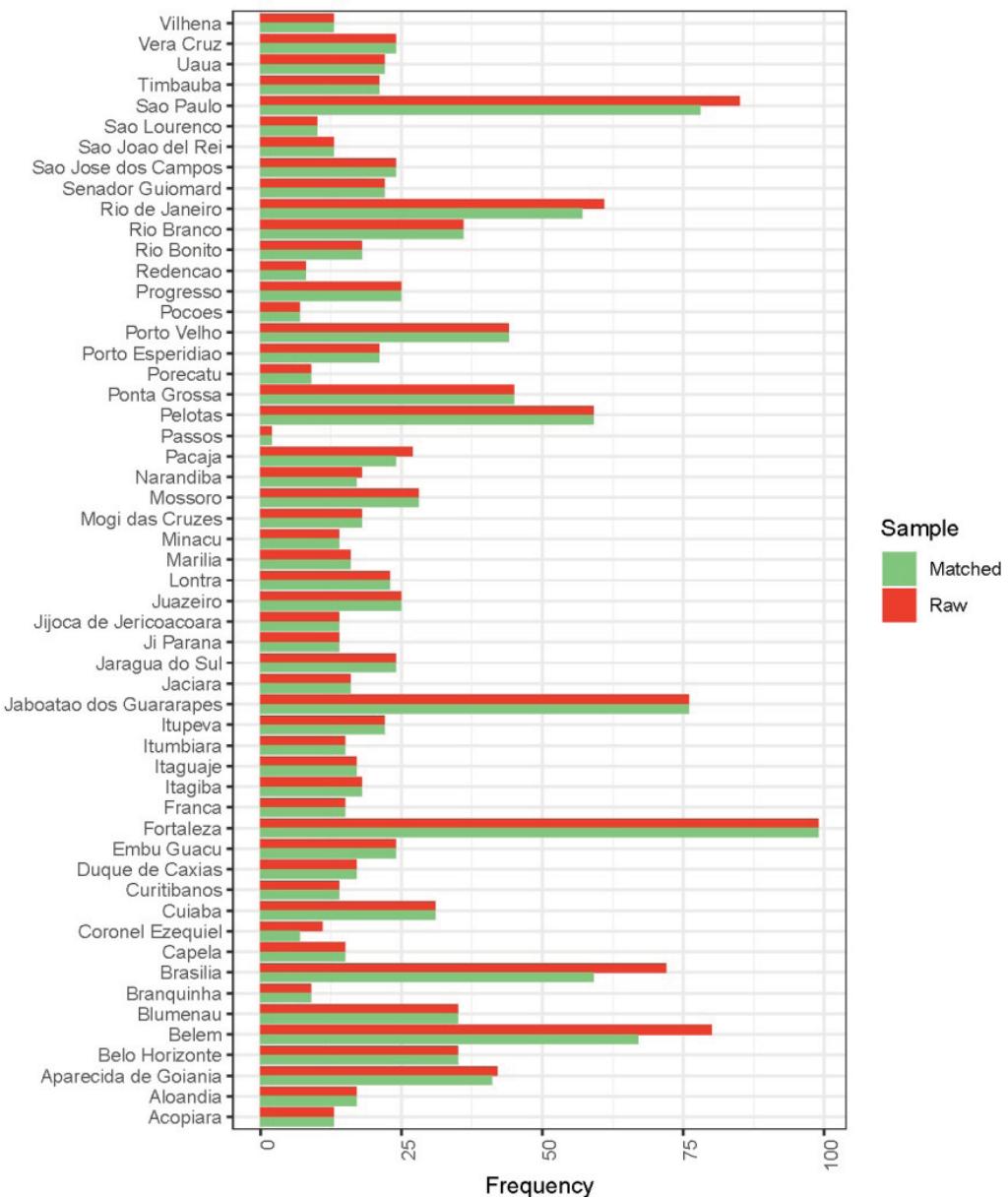
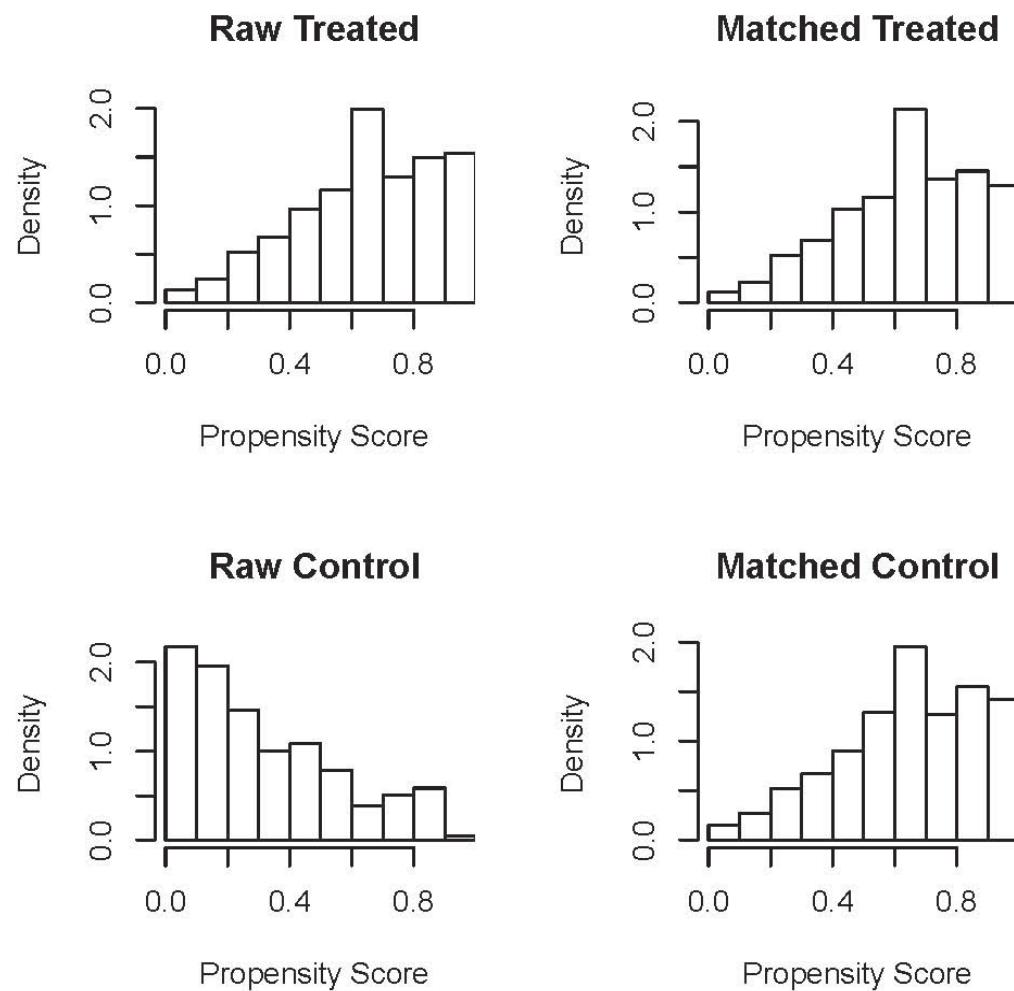
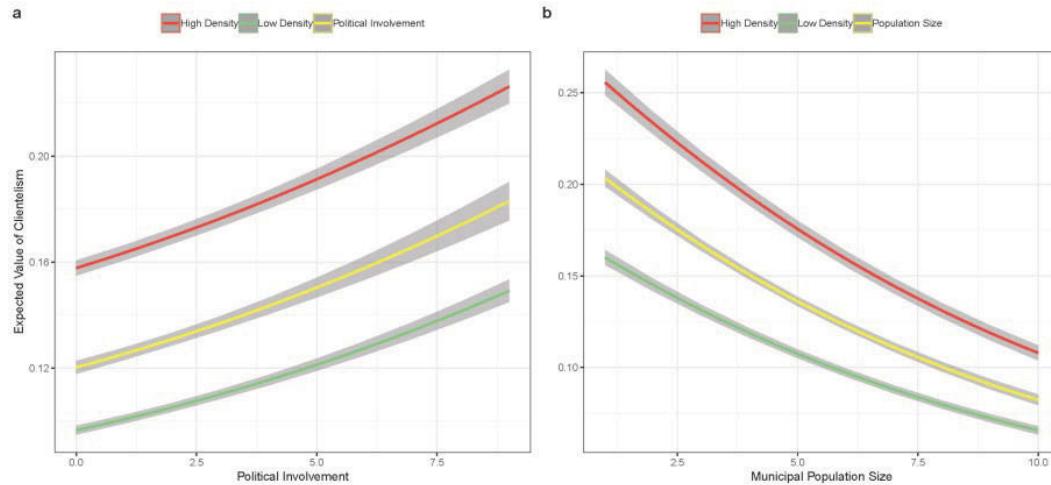


Figure A3. Pre- and Post-Matching Balance: Distribution of Propensity Scores



**Figure A4. Simulated Expected Probability of Being Targeted: Political Involvement and Population Size**



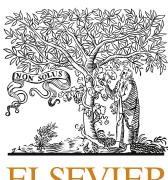
**Note:** Using the estimations in Table A3, the figure shows the probability of being targeted at different values of political involvement (**a**) and population size at the municipal level (**b**). The figure suggests that being nested in high-poor density areas contributes substantially more to explaining clientelism.

Figure A4 shows a plot divided in two panels. Panel **a** shows the simulated expected probabilities (with 95 percent confidence intervals) of being targeted at different levels of political involvement. As the blue lines suggests, individuals who participate in civic associations have higher probabilities of being targeted. This is in line with findings in previous research (Schaffer and Baker 2015; Carreras and Castaneda-Angarita 2014: 7; Calvo and Murillo 2013; Holland and Palmer-Rubin 2015: 16; and Rueda 2015). However, once I decompose these effects, being nested in high-poor density areas contributes substantially more to the model. These differences are statistically significant. Panel **b** shows the probability (with 95 percent confidence intervals) of being targeted at different increments of the size of the population. In line with the literature, I also see that this relationship is negative (Stokes 2005: 323; Kitschelt and Wilkinson 2006: 10; Magaloni 2008: 67; Rueda 2017; Bratton 2008; and Gingerich and Medina 2013: 456). However, the effect of being nested in high-poor density municipalities outperforms the effect of population size, suggesting spillover effects.

## **Apuntando Justo a Ti/Ustedes: Blancos Clientelares Grupales e Individuales en Brasil**

**Resumen:** ¿Los partidos apuntan a grupos o individuos? Aunque esta pregunta es fundamental para entender el clientelismo, la literatura no ofrece una respuesta clara. Este trabajo argumenta que, dependiendo de ciertas condiciones, los compradores de votos apuntan a individuos cuando pueden identificar a sus blancos, y a grupos cuando necesitan utilizar los efectos indirectos que provee la lógica del clientelismo. Tanto la identificación individual como los efectos indirectos del clientelismo grupal, dependen de los niveles de pobreza individual, pobreza grupal, y los niveles de competencia partidista. Aunque la teoría de este trabajo se concentra en los blancos clientelares (grupales e individuales), también argumenta que factores estructurales, como la densidad de pobreza, deberían ser considerados en la literatura acerca de la venta de votos. Estos factores estructurales son de los pocos observables sobre los cuales los compradores de votos basan su decisión acerca de si invertir en clientelismo o no. Usando datos de opinión pública y censos de Brasil, el trabajo examina las variaciones en rentas individuales dentro de diferentes contextos de pobreza a nivel municipal. Los resultados sugieren que los partidos políticos emplean estrategias segmentadas o ad-hoc, apuntando a individuos cuando son altamente identificables, y a grupos cuando se presentan situaciones de economías de escala. Además, individuos que no están en situación de pobreza también pueden recibir ofertas clientelares.

**Palabras clave:** Brasil, clientelismo, venta de votos



## Inclusive institutions, unequal outcomes: Democracy, state capacity, and income inequality

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### ABSTRACT

Although the relationship between democratic rule and income inequality has received important attention in recent literature, the evidence has been far from conclusive. In this paper, we explore whether the redistributive effect of democratic rule is conditional on state capacity. Previous literature has outlined that pre-existing state capacity may be necessary for inequality-reducing policies under democratic rule. In contrast to that intuitive view, this study argues that democratic rule and high state capacity combined produce higher levels of income inequality over time. This relationship operates through the positive effect of high-capacity democratic context on foreign direct investment and financial development. By making use of a novel measure of state capacity based on cumulative census administration, we find empirical support for these claims using fixed-effects panel regressions with the data from 126 industrial and developing countries between 1970 and 2013.

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### 1. Introduction

Median voter and selectorate theories posit electoral democracy as fundamentally equalizing (Acemoglu and Robinson, 2006; Boix, 2003; Bueno de Mesquita et al., 2003; Meltzer and Richard, 1981).<sup>1</sup> However, these redistributive propositions have not received support in recent, more empirically-minded literature (Acemoglu et al., 2015; Scheve and Stasavage, 2017; Timmons, 2010; Wong, 2016). The skeptics of the inequality-reducing effects of democratic institutions have noted that deficiencies in mechanisms of responsiveness and accountability, clientelism, interest group capture, and the institutional legacies of authoritarianism may pose serious obstacles to redistributive policies under democratic rule (Albertus and Menaldo, 2018). It has also been suggested that such effects might be heavily context dependent (Dorsch and Maarek, 2019; Soifer, 2013).

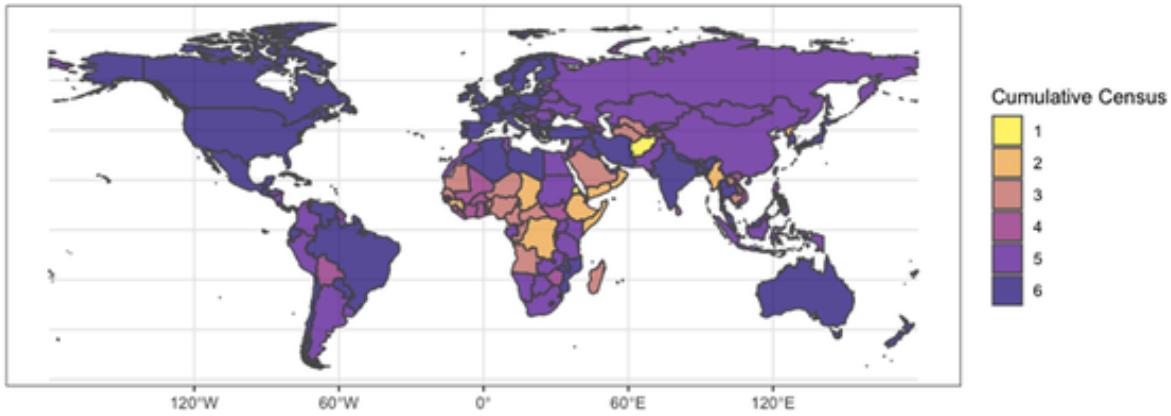
Looking at context-conditionality could be a new way forward to clarify both the theoretical and empirical relationship between democracy and inequality. In this paper, we explore whether democracy's impact on inequality is conditioned by state capacity. It might be expected that pre-existing state capacity, in the form of functioning bureaucracies and territorial penetration, would be nec-

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**Fig. 1.** Cumulative census variable in 2010.

essary for redistributive policies under democratic rule (Ziblatt, 2008).<sup>2</sup> For example, Soifer (2013) focused on the effect of inequality on democratization and argued that inequality-induced redistributive conflict only ensues in contexts of considerable levels of state capacity, which allows the implementation of redistributive taxation and transfer policies.

This study found no empirical support for these intuitive claims. Using fixed-effects panel regression models with data from 126 industrial and developing countries from 1970 to 2013, we show that democratic rule combined with high state capacity leads to increasing income inequality over time. This study's theoretical argument centers on the idea that democracy and high state capacity combined provide a context of optimal property rights protection and contract security. We argue that the high-quality investment environment backed by democratic and high-capacity state institutions increases income inequality through two transmission channels: the higher inflow of foreign direct investment (FDI) and the development of sophisticated financial sectors, which have been associated in recent literature with increasing income inequality. While income concentration in high-capacity democratic environments occurs through market inequality, we contend that fiscal policy in these contexts is not able to offset these changes. Multinational corporations and transnational elites become more relevant actors in national politics with increasing FDI flows and financial development, which allows them to exert downward pressure on labor-protecting regulations, redistributive taxation, and transfers.

Evaluating the effect of regime type on inequality at different levels of state capacity poses significant empirical challenges. Both regime type and state capacity tend to be endogenous to inequality levels and other socio-economic variables associated with economic development. Most importantly, democratic rule might create incentives to increase state capacity in order to levy more tax revenue and provide more public goods to citizens. We mitigate these concerns via a careful construction of a state capacity measure based on cumulative census administration, which is unlikely to reflect government policy priorities that are endogenous to democracy levels. We also use instrumental variables to relieve endogeneity concerns by instrumenting regime type with regional democratic diffusion. Our results, based on annual panel data, are robust to the system generalized method-of-moments estimator (GMM) analysis, alternative measurements of democracy, various sub-sample restrictions, such as excluding industrial and former Warsaw Pact countries from the analysis, and different lag structure specifications.

This paper joins several recent contributions in stressing the importance of conditional factors in the regime-inequality relationship. Our contribution is parallel to that of Dorsch and Maarek (2019), who argue that the effect of democracy on inequality is conditioned by the initial level of inequality. According to their argument, democratization tends to bring initial high or low levels of inequality to the “middle ground,” through either redistributive social policy or market reforms. We point to another factor that conditions the effect of democratic rule on inequality: state capacity, which principally affects inequality in the market income phase. This might well illuminate the institutional underpinnings of increasing within-country inequality in the last four decades in many parts of the world.<sup>3</sup> The institutionalist literature has implicitly assumed that “inclusive institutions” do not only promote development but also more equal income distribution, at least in the long term (Acemoglu et al., 2001). In this paper, we provide evidence that this conclusion may not be warranted and that “inclusive” institutions—captured in the combination of democratic regime type and high-capacity state institutions—might well lead to a trend of steady increases in income inequality through different policy mechanisms.

The paper is structured as follows. In Section 2, we give an overview of the recent literature on democracy and inequality. In Section 3, we present our theoretical argument on the interactive relationship between democratic rule, state capacity, and inequality. Then, in Section 4, we present our research design and address issues of the measurement of key variables. In Section 5, we present our results from fixed-effects panel models and the corresponding robustness checks. In Section 6, we test the transmission channels behind this relationship. In Section 7, we provide concluding remarks.

<sup>2</sup> We define “state capacity” as state institutions’ ability to collect and manage information and to effectively execute policies in different areas, notably including market regulation and contract enforcement (“legal capacity”) and resource extraction (“fiscal capacity”) (Besley and Persson, 2009: 1219).

<sup>3</sup> There have been major exceptions to that trend, especially in Latin America, where inequality has declined since the end of 1990s, albeit very slowly.

**Table 1**

Effect of democracy and state capacity on the net gini index.

	Multiple Imputation				Mean Imputed series	
	(1) Boix	(2) Polity	(3) Boix	(4) Polity	(5) Boix	(6) Polity
Gini Lagged	0.919*** (0.008)	0.920*** (0.008)	0.917*** (0.008)	0.921*** (0.008)	0.937*** (0.006)	0.941*** (0.006)
Boix Democracy	-0.065 (0.065)		-0.337*** (0.124)		-0.187* (0.102)	
Polity Democracy		-0.004 (0.006)		-0.021** (0.009)		-0.022*** (0.007)
Cumulative Census			-0.036 (0.048)	0.004 (0.086)	0.088** (0.040)	-0.043 (0.064)
Boix Democracy*Cumulative Census			0.107*** (0.037)		0.096*** (0.031)	
Polity*Cumulative Census				0.007** (0.003)		0.008*** (0.002)
GDP (log)	0.279** (0.134)	0.278** (0.137)	0.246* (0.129)	0.259* (0.133)	0.382*** (0.085)	0.426*** (0.083)
Inflation	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)	0.000* (0.000)	0.000* (0.000)
Urban Population	-0.013 (0.008)	-0.013 (0.008)	-0.008 (0.007)	-0.010 (0.008)	0.002 (0.005)	-0.001 (0.005)
Trade	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	0.001 (0.001)	0.000 (0.001)
LR effect at Census = 6			3.67		6.17	
LR effect at Census = 3			-0.19		1.6	
Marg. impact at Census = 6			0.305	0.021	0.389	0.026
Marg. impact at Census = 3			-0.016	0.000	0.101	0.002
Country and Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4190	4006	4019	3962	3778	3962
R-squared	0.99	0.99	0.99	0.99	0.99	0.99

**Notes:** The dependent variable is the net Gini coefficient and the main explanatory variables are one-period-lagged democratic scores from Boix et al. (2013) and Polity IV by Marshall et al. (2016) interacted with the cumulative census variable. The unit of analysis is country-year. All specifications include a full set of country- and year-fixed effects. All independent variables are lagged one year. Standard errors are clustered at the country level. \*\*\*p < 0.01, \*\*p < 0.05, \*p < 0.1.

## 2. Democracy and inequality

Democratic institutions have been conceptualized as a major source of responsiveness and accountability in the political economy literature, providing electoral incentives to redistribute income. Leaders in democratic nations need widespread support to achieve and sustain power and are, therefore, more likely to move beyond their narrow set of personal interests by appealing to a wider public through public policies (Meltzer and Richard, 1981). Compared to authoritarian polities, widespread enfranchisement in democracies is likely to result in higher public goods provision, which may help the poor to benefit from economic growth via investments in human capital (Baum and Lake, 2003; Lindert, 2004; Morgan and Kelly, 2013). These policies are expected to produce more equal income distribution over time.

Despite these plausible theoretical mechanisms, empirical evidence has not offered solid support for the inequality-reducing effects of democracy. Several empirical studies incorporating various regions of the developing world find that democracy does not induce lower income inequality (Acemoglu et al., 2015; Dorsch and Maarek, 2019; Gradstein and Milanovic, 2004; Timmons, 2010; Wong, 2016), more progressive taxation (Scheve and Stasavage, 2012), or pro-poor social policies (Mulligan, Gil, and Sala-i-Martin, 2004; Pagalayan, 2020; Ross, 2006). The causes of this “democratic unresponsiveness” have constituted a major puzzle for researchers. At the same time, some democracies might affect inequality more than others, and a focus on the social and institutional contexts in which democracies operate could offer a new way forward for fruitful theorizing.

In this paper, we concentrate on the question of whether democracy's effect on inequality is conditioned on state capacity. We define “state capacity” as state institutions' ability to collect and manage information and to effectively execute policies in different areas, notably including market regulation and contract enforcement (“legal capacity”) and resource extraction (“fiscal capacity”) (Besley and Persson, 2009: 1219). High state capacity implies a monopoly on violence over a territory and a cohesive and competent civil service and courts operating on the basis of well-established rules and routines. State capacity has received important attention recently as an explanatory variable in determining development outcomes (Hanson, 2015; Knutsen, 2013).

The previous literature has hinted that inequality reduction is more likely when both the political-electoral incentives stemming from regime characteristics and the state capacity to redistribute exist. In low-capacity states, democratization should not matter for redistributive outcomes given their inability to collect taxes and implement social policy. Revenue extraction and policy implementation—both crucial for income redistribution—are dependent on the state's ability to penetrate its territory and implement decisions (Ziblatt, 2008). In low-capacity states, elites are able to escape taxation, lowering the state's ability to provide public goods and transfers (Scott, 1988). For example, income taxation requires identifying individual incomes both within the national territory and off-

shore, assessing value, and collecting payments. The implementation of redistributive policies, such as basic education, healthcare, social assistance, and insurance policies, is also likely to be dependent on the pre-existing capacity of the state institutions (Ziblatt, 2008).

### 3. Democracy, state capacity, and investor confidence

In contrast to that intuitive account, we present a more nuanced understanding of the relationship between democracy, state capacity, and income inequality. Counterintuitively, we argue that democratic rule in the context of high state capacity is associated with increases in income inequality. It is plausible to think that democracy and high state capacity provide the context for optimal property rights and contract security, which favors investor confidence through lower-risk capital investments. The high-quality investment climate in a democratic, high-capacity setting increases inequality through two policy channels, financial development and larger FDI flows, that affect market income inequality. For several reasons—which we further introduce below—we believe that fiscal redistribution is not able to offset these inequality-concentrating mechanisms.

Under low state capacity, we would expect neither democratic nor authoritarian regime types to make much difference in terms of distributive outcomes, given that the state lacks the ability to undertake both redistributive policies and the provision of contract and property rights security. We also anticipate that in autocratic regimes, the level of state capacity does not matter for inequality. This is because different sub-types of authoritarian regimes are inherently diverse and have very different policy priorities in terms of property rights, contract security, and redistribution (Dorsch and Maarek, 2019). For instance, communist regimes in Eastern Europe and Asia led to extremely egalitarian outcomes over time, while many right-wing dictatorships in Latin America and Sub-Saharan Africa presided over the most unequal distributive outcomes in modern history. Our interactive theory therefore makes only the modest prediction that democratic rule is associated with increasing inequality in the context of high preexisting state capacity.

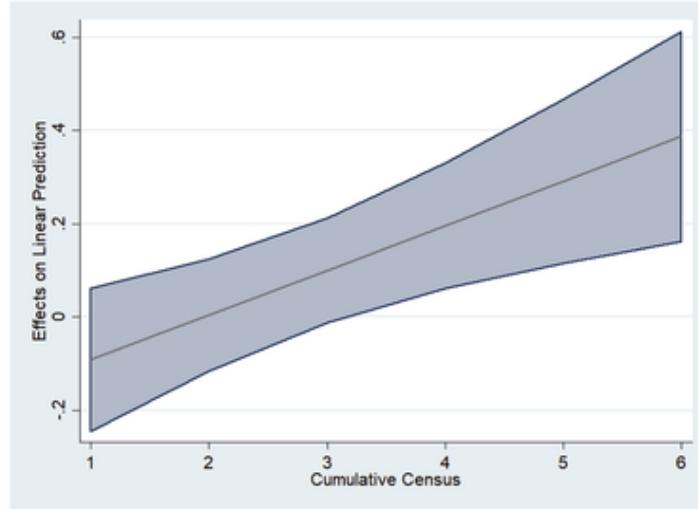
Democratic regimes have been widely portrayed as more likely to respect private property rights and provide greater rule of law, incentivizing capitalist investor confidence (North and Weingast, 1989; Olson, 2000). An influential argument has connected democracy with higher FDI inflows precisely because of greater investment security (Busse and Hefeker, 2007; Jensen 2003, 2008). At the same time, democracy alone is not enough to secure investor confidence. Contract enforcement—based on state capacity to enforce the rule of law among private agents—is likely to be crucial for business confidence and attracting foreign investors, along with the protection of private property from arbitrary government involvement. Pre-existing state capacity clearly underlies this positive contractual environment (Besley and Persson, 2009). The “watchman” capacities of the state—Weberian-like central- and local-level bureaucracies, impartial courts, uniform weights and measures, and effective law enforcement institutions—are crucial for reducing uncertainty and transaction costs (Coase, 1960; Williamson, 1985). Therefore, it could be hypothesized that nations combining high state capacity with democratic rule achieve the highest FDI inflows (Li and Resnick, 2003).

In addition to fomenting FDI inflows, democratic high-capacity contexts offer an especially nurturing context for financial development. The checks and balances inherent to a democratic system reduce the government's leverage in both expropriating assets and threatening property rights in the financial sector (Haber et al., 2008; Menaldo and Yoo, 2015). Yet these positive effects might not be achieved without pre-existing state capacity reducing important market failures that might otherwise result from information asymmetries and obstruct contract enforcement. For example, the creation of accurate property registers by the state allows banks to know who owns which assets, which facilitates the creation of contracts (Haber et al., 2008). The enforcement of modern bankruptcy law and the diffusion of the modern accounting standards underlying credit expansion may depend on the quality of bureaucracy and its ability to penetrate the reaches of the state territory. At the same time, stock market expansion is likely to depend on stronger corporate governance and the capacity to enforce bankruptcy laws (Becerra et al., 2012; Menaldo, 2016).

Thus far, we have argued that democratic and high-capacity state institutions are more likely to attract more FDI and help to develop sophisticated financial sectors. The second step of our argument connects these two variables with increasing income inequality. First, considerable recent evidence has pointed out that FDI flows may increase income inequality in both the developed and developing worlds (Basu and Guariglia, 2007; Jaumotte et al., 2013; Reuveny and Li, 2003). FDI inflows lead to an increased demand for skilled workers, associated with growing wage differentials between skilled and unskilled jobs, which is likely to increase income inequality (Decreuse and Maarek, 2015; Egan and Bogliaccini, 2017; Feenstra and Hanson, 1997; Kratou and Goaied, 2016). For example, investment by multinational corporations often creates a small sector of high wage earners and a large low-wage backward sector (Nafziger, 1997).<sup>4</sup>

The development of a sophisticated financial system is another transmission channel by which investor confidence in high-state-capacity democracies produces higher income inequality. On the one hand, scholars have long recognized the growth-promoting and poverty-reducing effects of financial development through incentivizing and channeling savings (Beck and Demirguc-Kunt, 2008). According to this view, financial development is likely to happen in the “extensive margin,” which is likely to be associated with more equal income distribution. On the other hand, financial development could be produced in the “intensive margin” through improvements in the quality and range of financial services available to those who already enjoy access to the financial system, which has an important potential to widen inequality and perpetuate intergenerational differences in economic opportunity (Greenwood and Jovanovic, 1990). Financial instruments, such as bonds and stocks, are likely to provide higher rates of returns to pre-existing capital, providing a basis for the concentration of financial assets (Piketty, 2014).

<sup>4</sup> Decreuse and Maarek (2015) show that FDI stock is negatively associated with the labor share in the host countries, though this effect is non-linear.



**Note: Conditional Effect of Democracy and State Capacity on Inequality.** The panel shows the predicted change in the Gini index from democratic transitions using Boix et al.'s (2013) democracy index at different pre-democracy cumulative census scores according to the estimates in Table 1, Model 5. The blue lines represent the 95% confidence intervals.

**Fig. 2.** Marginal Effect of Boix Democracy Indicator on Gini Index for Different Pre-Democracy Cumulative Census Values. (For interpretation of the references to colour in this figure legend, the reader is referred to the Web version of this article.)

In addition, the un-equalizing effects of the financial system could work through a labor income channel. Financial sector employees are strongly concentrated at the top of the income distribution, and their earnings exceed those of employees with similar profiles (in terms of age, gender, and education) in other sectors. Asymmetric compensation schemes for bank managers may especially contribute to this un-equalizing dynamic (Denk and Cournède, 2015).<sup>5</sup> Empirically, recent literature has provided evidence for both positive and negative associations between financial development and inequality. At least six recent papers find a positive association between financial sector size—usually proxied by private credit as a percentage of GDP—and an increase in income inequality, both in cross-national and subnational contexts (Dabla-Norris et al., 2015; Denk and Cournède, 2015; Haan and Sturm, 2017; Jauch and Watzka, 2016; Jaumotte et al., 2013; Li and Yu, 2014). Other studies find that countries with higher levels of financial development have less income inequality (Hamori and Hashiguchi, 2012; Kunieda et al., 2014; Naceur and Zhang, 2016).

It might be expected that fiscal policy would offset the increase in market inequality in democratic high-capacity settings in the post-redistribution stage. However, while the context of high state capacity in democracies establishes preconditions for progressive taxation or social policy, the redistributive capacity does not automatically translate into policy outcomes. Inequality-increasing market processes also put pressure on fiscal policy, making it difficult to increase redistribution via taxes and transfers (Egan, 2010). With increasing FDI flows and more developed financial sectors, domestic and international corporate and financial elites become more relevant actors in national politics and are likely to exert downward pressures on labor-protecting regulations and redistributive taxation and transfers (Wong, 2016).

A high concentration of income at the top increases potential resources for elite lobbying activities, augmenting their already disproportionate influence on policy making even in countries where considerable redistributive capacity exists (Acemoglu and Robinson, 2006). Starting in the mid-1970s, most industrial nations have experienced considerable reductions in marginal tax rates on income, which has contributed to higher inequality in the disposable income phase (Atkinson, 2015; Bartels, 2008; Gilens and Page, 2014). Egan (2010) shows that, in the Latin American context, accumulated FDI levels are associated with a greater likelihood of market economic reforms, such as lower tax burdens and domestic financial liberalization. Although further work needs to be done in this domain, it is likely that similar patterns of reinforcing elite dominance could be at play in other parts of the developing world, where economic elites enjoy similar political opportunities to concentrate capital.

To summarize, our theoretical propositions have the following empirical implications. Our main hypothesis is that democratic rule in a high-state-capacity context increases both market and post-redistribution inequality over time. We also posit that a democratic, high-capacity context is associated with larger annual FDI inflows and faster growth of the financial sector. For these reasons, we do not expect high-capacity democracies to experience larger fiscal transfers or redistribution, holding all else equal. Lastly, we also expect a positive association between FDI stock, financial development, and income inequality.

<sup>5</sup> In addition, large financial sectors contribute to moral hazard problems. Given bailout expectations by the government, sophisticated financial instruments encourage the pursuit of high returns through risk-taking behaviors, benefiting members of the financial elite compared to other sectors of the economy (Korinek and Kreamer, 2014).

#### 4. Research design, methods, and data

We use annual fixed-effects panel regression models to test our propositions. We use unit fixed effects because we are particularly interested in changes within individual countries over time.<sup>6</sup> Country-fixed effects allow us to account for country-specific omitted factors that are stable over time. The inclusion of a lagged dependent variable controls for autocorrelation. The model takes the following form:

$$Inequality_{i,t} = \alpha_0 + \beta_0 Inequality_{i,t-1} + \beta_1 Democracy_{i,t-1} + \beta_2 State\ Capacity_{i,t-1} + \beta_3 Democracy * State\ Capacity_{1,t-1} + Controls_{i,t-1} + \gamma_i + \lambda_t + \mu_{i,t}$$

Our main theoretical interest is the interaction term between the lagged values of democracy and the lagged values of cumulative state capacity; ( $\beta_3$ ).  $\gamma_i$  and  $\lambda_t$  are the country- and year-fixed effects, respectively, while  $\mu_{i,t}$  is the estimated residuals.

##### 4.1. Variables and measurement

**Inequality:** Our outcome variable is income inequality as measured by the Gini index. The Gini index ranges from 0 (perfect equality) to 100 (one person has all the income). We use the Standardized World Income Inequality Database (SWIID) (Solt, 2016) for our inequality measure. Using the Luxembourg Income Study (LIS) as the methodological standard for comparability, the SWIID incorporates data from various sources. The SWIID uses “model-based multiple imputation estimates of the many missing observations in the LIS series” (Solt, 2016, p. 1271), maximizing both comparability and sample size. Incomparability is reflected in the standard errors of the SWIID estimates, where the Gini estimates and their associated uncertainty are represented by 100 draws from the posterior distribution. The data set provides 100 imputations for each country-year observation (*ibidem*).<sup>7</sup> The drawback of the SWIID data is therefore the reliance on estimation to fill in missing data points.

The SWIID is composed of four indicators—disposable income inequality (post-tax and -transfer), market income inequality (pre-tax and -transfer), absolute redistribution (the difference between the market income and disposable income Gini indexes), and relative redistribution (the percentage by which market income inequality is reduced). We expect a democratic high-capacity context to affect both market and disposable (net) income inequality. While we anticipate the inequality-increasing processes to work mostly through market income concentration, they also put a strain on fiscal redistribution, as we have argued above. Therefore, we present results with both net and market income inequality in our empirical analysis.

**Democracy:** We adopt the Boix et al. (2013) and Polity indicators as our main democracy measures. Boix et al.’s (2013) measure is based upon two principal components: 1) the use of elections to choose the legislature and, directly or indirectly, the chief executive, and 2) a minimum threshold of participation rights. The Polity democracy index consists of six component measures that record key qualities of executive recruitment, constraints on executive authority, and political competition (Marshall et al., 2017). It provides an ordinal ranking of political regimes on a scale of 10 to –10 (democracy to authoritarian regimes). Both of these measures offer almost universal country coverage over time. We further test the robustness of our results with the democracy indicators of Cheibub et al. (2010) and Dorsch and Maarek (2019) (based on the democracy measure initially developed by Papaioannou and Siourounis, (2008) and Acemoglu et al., [2019]).

Given that inequality is likely to affect the prospects of democratic consolidation in different nations, issues of endogeneity must be discussed. Indeed, the level of inequality has figured as a crucial explanatory variable in previous studies of democratization (Acemoglu and Robinson, 2006; Ansell and Samuels, 2014; Boix, 2003). To mitigate reverse causality concerns, we make use of an instrumental variable strategy. Relying on previous work (Acemoglu et al., 2019; Dorsch and Maarek, 2019), we use regional waves of democratization as a source of exogenous variation in domestic democracy (Dorsch and Maarek, 2019). It is very unlikely that within-country inequality or other domestic economic and political variables could have an influence on the timing of regional democratization processes, while democratization waves clearly affect domestic democratization (Acemoglu et al., 2019; Huntington, 1991). It is implausible that democratic or autocratic waves have a direct effect on inequality in a particular country except through their effect on domestic political institutions. This instrument allows us to plausibly isolate an exogenous variation in democratic institutions.

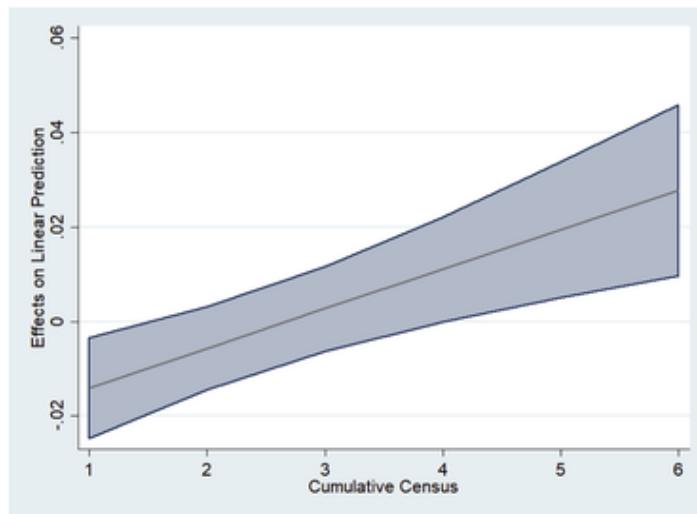
We construct our instrument through the following strategy. For our binary indicator of democracy (Boix et al., 2013), we calculate the fraction of countries with democratic institutions in the region that shared the same regime type at the beginning of the panel. For instance, for country  $i$ , we add up the number of countries sharing regime type in the same region that are democratic at the time, excluding country  $i$ . For our continuous Polity indicator, we calculate the average democracy score in a region to instrument Polity scores in a given year, excluding the country itself.<sup>8</sup>

A possible violation of the exclusion restriction is that democratic transitions in neighboring countries affect domestic economic growth rates, which could affect economic variables domestically—especially if regional economies are integrated—which in turn af-

<sup>6</sup> List of countries is provided in the Appendix in Table A2.

<sup>7</sup> We make use of multiple imputation (MI) regression tools provided by Stata, as recommended by Solt (2016). We perform our main regressions over each of the 100 imputations in order to provide a reliable estimate of the coefficients, taking into account the standard errors across the 100 imputations. This allows the uncertainty of the SWIID to be reflected in MI regression estimates. Given that the MI estimation is computationally intensive, some MI regression tools are not available (e.g., 2LS2); we therefore chose to present the majority of our models with non-imputed estimates, calculating the mean of imputed series for each country-year, and performed the regressions on that single point estimate.

<sup>8</sup> Following the definition of Dorsch and Maarek (2019), we define the regions as follows: Africa, Central Asia, Eastern Europe, Europe/U.S., Middle East, South-East Asia, South/Central America.



**Note: Conditional Effect of Democracy and State Capacity on Inequality.** The panel shows the predicted change in the Gini index from a one-unit change in democracy (Polity) at different lagged cumulative census values according to the estimates in Table 1, Model 6. The blue lines represent the 95% confidence intervals.

**Fig. 3.** Marginal Effect of Polity Democracy Indicator on Gini Index for Different Lagged Cumulative Census Values. (For interpretation of the references to colour in this figure legend, the reader is referred to the Web version of this article.)

fects both inequality and the likelihood of domestic democratic transition (Acemoglu et al., 2019). To mitigate these concerns, we control for log of GDP per capita in all models.

**State Capacity:** Operationalizing state capacity in the context of our analysis is a complicated task. Similar to regime type, state capacity tends to be endogenous to inequality levels and other socio-economic variables associated with economic development. In addition, democratization might affect state capacity by creating incentives to gather more tax revenue and provide more public goods and services to citizens (Acemoglu and Ticchi, 2011). Most existing measures used in the literature—based on fiscal capacity or levels of public goods provision—reflect the policy preferences of governments and are likely to be directly endogenous to regime type and inequality levels (Bockstette, 2002). In addition, as we explain below, expert survey-based indicators, such as the Bureaucratic Quality Index of the International Country Risk Guide (ICRG) or the World Bank (WB) Worldwide Governance Indicators, are likely to be affected by expert biases of different types (Kurtz and Schrank, 2012).

We make use of a novel measure of state capacity that is less vulnerable to these problems: the regular ability to conduct national population censuses (Hanson, 2015; Soifer, 2013). The capacity to undertake periodic censuses captures the ability of the central state to gather information about its subjects, proxying well for functioning central and local bureaucracies and effective law enforcement institutions (Mann, 1984). In addition, censuses also provide the state the necessary information for the construction of tax registers, cadastral maps, and other forms of systematization (Soifer, 2013). Census administration therefore captures the capacity to collect and manage information and effectively execute policies in different areas, including market regulation, property rights protection, and contract enforcement (“legal capacity”) and the ability to extract resources (“fiscal capacity”) across national territory (Besley and Persson, 2009; Knutson, 2013).

Even if nations have incentives to manipulate the timing, reach, and coverage of the censuses—concerns which we discuss below—there are no major political incentives to avoid them altogether. They are infrequent in time—conducted usually every five or 10 years—and take up relatively few resources compared to the implementation of welfare policies or infrastructure programs. However, they serve multiple purposes for both democratic and autocratic nations of different development levels (Christopher, 2008). Censuses not only provide information to identify subjects for taxation, military conscription, and government programs but have also figured as crucial nation-building devices for nations in the developing world while contributing to social control and surveillance for authoritarian regimes (Anderson, 1991; Lieberman and Singh, 2017; Taylor, 2019).<sup>9</sup> It is therefore plausible to believe that the absence of a census acts as a direct signal of extreme state weakness, while its presence indicates meeting a minimal threshold of state organization. Where states cannot conduct censuses regularly, they are surely unable to undertake property rights and contract enforcement, even if they have political incentives to do so (Centeno, 2002).

We use data from the United Nations Social and Housing Statistics Section database on national population censuses,<sup>10</sup> which documents information on the presence or absence of a standard national census for every country-year during the period 1945–2015,

<sup>9</sup> For instance, colonial independence movements, initially concerned with the censuses' surveillance role, coopted them as a means of promoting national identity through the definition of a national population, akin to the definition of a national territory (Anderson, 1991).

<sup>10</sup> The United Nations Social and Housing Statistics Section database excludes all censuses defined as “urban, administrative,” or “sample,” as well as all those described only as “scheduled,” since these censuses do not provide the government with systematic information about its entire population. This leaves two types of censuses in the sample: the standard census, as carried out in most countries, and the rolling census, carried out on an annual basis for a portion of the population in a small set of countries, including Iceland, Sweden, and Denmark (Hanson, 2015; Soifer, 2013).

which covers 13,466 country-years, as compiled by [Hanson \(2015\)](#).<sup>11</sup> An intuitive approach would be to create a lagged indicator measuring whether nations conducted a census in the past five or 10 years ([Hanson, 2015](#); [Soifer, 2013](#)). Yet this measure is more likely to be endogenous to contemporary socio-economic situation and regime type, and the occurrence and timing of censuses could be manipulated by governments according to different policy priorities. For instance, it is possible that governments might determine the timing of censuses according to their electoral calendar to influence the boundaries of electoral districts (e.g., to exclude or include some particular ethnic and regional groups) or to show favorable population sizes in order to achieve more development aid from donors ([Lieberman and Singh, 2017](#)).

To mitigate these concerns, we construct a simple continuous indicator that counts the cumulative number of decades in which countries have conducted periodic censuses since 1950 for every country-year. The national censuses are conducted at either 10- or five-year intervals, and the absence of a census in a decade is likely to signal considerable weakness of the central government due to a lack of control over sub-national areas, absent bureaucracies, and inability to control national territory to its full extent. For instance, if a government were unable to conduct censuses in the 1950s and 1960s but able to do so in the 1970s and 1980s, the country receives a score of 2 for the whole decade of 1980–1990. The indicator has a global mean of 3.40 and standard deviation of 1.36. [Fig. 1](#) displays the cumulative census scores in 2010. In 2010, industrial countries have unanimously maximum values (6) on this indicator, while Somalia, Eritrea, Chad, Yemen, and Afghanistan possess the lowest values with only 1–2 census iterations.

This procedure—while rather blunt—creates an indicator that is largely unaffected by both expert coding bias and the policy priorities of governments, relieving inherent endogeneity bias ([Soifer, 2013](#)). This long-term measure—which captures the effect of censuses conducted in previous decades—is likely to “wash out” all temporary shocks resulting from the timing of elections, foreign aid priorities, or other time-variant policy agendas. These political incentives might explain why censuses are conducted in one particular year versus another but are unlikely to affect whether the census was conducted over a long time frame such as several decades. It is important to note that our measure captures all censuses conducted in the national territory since 1950 by any state—even those that were conducted under colonial administrations and nations that formed part of other countries. In this way, our measure accounts for pre-statehood state capacity. We demonstrate this point in the Appendix in [Table A3](#)., which lists all censuses in our sample that were undertaken under colonial administrations and parts of other countries.<sup>12</sup>

However, several potential criticisms of our measure merit discussion. First, our census indicator does not allow us to capture more subtle differences between countries that do not miss censuses, nor does it take into account more gradual increases or declines in state capacity occurring yearly.<sup>13</sup> Despite these potential shortcomings, we argue that our indicator is considerably less susceptible to measurement error than the existing measurements based on expert evaluations, such as the Bureaucratic Quality Index (BQI) from the ICRG dataset and the WB World Governance Indicators, which are able to capture more subtle country-differences within regions.<sup>14</sup> The “expert scores” are indeed likely to meaningfully reflect differences between countries in the same region (say between Sweden, Italy, and Albania in Europe).<sup>15</sup>

Yet these evaluations start to face enormous measurement validity issues—stemming from expert biases possibly inducing considerable measurement error—when comparing the aforementioned nations with countries outside of their political and cultural regions. Given that what “high-quality bureaucracy” means in different countries is regionally and culturally specific, we cannot expect that quantitative gradations in expert scores for various dimensions meaningfully reflect differences in state strength ([Kurtz and Schrank, 2012](#)). A great advantage of our measure—besides its wide availability—is the fact that census occurrence is based on “hard” institutional data, which is not vulnerable to coding biases of the type that stem from expert evaluations ([Knutsen, 2013](#); [Kurtz and Schrank, 2012](#)). Our simple measure is largely free of these measurement problems, as national censuses always include enumeration of the whole population (as defined by the UN), although their quality might vary considerably. The absence of a census gives a powerful indication of the weakness of state institutions in the developing world, despite the measure’s bluntness.

Second, another potential disadvantage of our measure, which sums up censuses over decades cumulatively, is that it cannot decline over time. To mitigate that concern, we have devised another cumulative census variable that introduces a penalty to the cumulative census score when countries miss the census in a decade. It is very plausible that when countries miss a census, state capacity is likely to decline. We believe that missing a census is likely to be a sign of inherent state fragility, which leads to a decline in state capacity. To demonstrate that our penalized measure is robust to different sizes of penalty, we create two versions of that variable. For

<sup>11</sup> The data for 1990–2020 is available in the United Nations Social and Housing Statistics Section <https://unstats.un.org/unsd/demographic-social/census/censuses/>. The data for the period 1950–1990 is available at the United Nations Social and Housing Statistics Section. 2003. Ethnicity: A Review of Data Collection and Dissemination. Demographic and Social Statistics Branch, United Nations Statistics Division. At <http://unstats.un.org/unsd/demographic/sconcerns/popchar/Ethnicitypaper.pdf>.

<sup>12</sup> [Table A3](#) in the Appendix shows that states that emerged from other states with high capacity (had regular census administration) also had high capacity post-independence (i.e., had achieved a high cumulative census score by 2010), given that they had accumulated a high census score. As demonstrated by this table, the Soviet Union, Yugoslavia, and Czechoslovakia gave their high-capacity levels to successor states, given that all these censuses are captured by our measure. The table also shows that censuses conducted under colonial empires (British, French, and Portuguese) in other parts of the developing world are accounted for by our census measure as well.

<sup>13</sup> We thank one of the anonymous reviewers for this comment.

<sup>14</sup> For instance, our indicator does not allow us to capture any meaningful variation between industrial countries in Western Europe and North America, given that they have not missed censuses in any decade since the 1950s.

<sup>15</sup> For example, [Kurtz and Schrank \(2012: 542\)](#) explain that measurements that rely on surveys, particularly of foreign investors or domestic firms, wrongly assume that “the interests of investors [...] and the interest of the state institutions are essentially coterminous.” In some instances where the state is strong and able to levy taxes and impose regulations, for example, the state will most likely “be judged ‘burdensome’ and ‘growth-inhibiting’ by many businesspersons” ([Kurtz and Schrank, 2012: 542](#)).

**Table 2**

Effect of democracy and state capacity on the net gini Index—2SLS and GMM.

	2SLS				GMM	
	(1) Boix	(2) Polity	(3) Boix	(4) Polity	(5) Boix	(6) Polity
Lagged Gini	0.937*** (0.006)	0.944*** (0.006)	0.944*** (0.006)	0.941*** (0.009)	0.995*** (0.001)	0.997*** (0.001)
Boix Democracy	-0.117 (0.245)		-0.096 (0.243)		-0.216** (0.087)	
Boix*Cumulative Census	0.108** (0.053)		0.085* (0.055)		0.039* (0.024)	
Polity Democracy		-0.055*** (0.015)		-0.062** (0.031)		-0.020*** (0.007)
Polity*Cumulative Census		0.007* (0.004)		0.011** (0.003)		0.005** (0.002)
Cumulative census	0.097* (0.056)	-0.082 (0.064)	0.133** (0.057)	0.012 (0.018)	0.001 (0.017)	0.012 (0.018)
GDP (log)	0.392*** (0.088)	0.034 (0.045)	0.298** (0.093)	0.017 (0.021)	0.201** (0.179)	0.032* (0.017)
Inflation	0.000* (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000*** (0.000)	0.001*** (0.000)
Urban Population	0.001 (0.006)	0.006 (0.006)	0.002 (0.006)	0.006 (0.009)	-0.001* (0.001)	-0.002** (0.001)
Trade	0.001 (0.001)	0.002 (0.001)	0.002* (0.001)	0.001 (0.001)	0.000 (0.001)	0.000 (0.000)
Ethnic Diversity			8.099 (6.531)	1.613 (2.836)		
Civil Conflict			-0.091 (0.060)	-0.117* (0.068)		
ODA (log)			-0.006 (0.004)	-0.007* (0.004)		
Left			0.008 (0.041)	0.099* (0.057)		
Growth			-0.604* (0.350)	-0.069 (0.438)		
Fraser Index			0.013 (0.013)	0.015 (0.014)		
LR effect at Census = 6	8.43		7.39		3.6	
LR effect at Census = 3	3.29		2.84		-19.8	
Marg. impact at Census = 6	0.531		0.414		0.018	
Mar. impact at Census = 3	0.207		0.159		-0.099	
C-D F stat on excl. IVs	84.26	58.56	73.14	56.78		
Hansen J-stat p-value	0.11	0.14	0.12	0.26	0.38	0.9
Excluded Instruments	3	3	3	3		
Number of Instruments					98	124
AR(1)					0.000	0.000
AR(2)					0.888	0.640
Observations	4034	4020	3999	3894	3160	3042
R-squared	0.741	0.742	0.837	0.769	0.769	0.818

**Notes:** The dependent variable is the net Gini coefficient and the main explanatory variables are one-period-lagged democratic scores from Boix et al. (2013) and Polity IV by Marshall et al. (2016) interacted with the cumulative census variable. The unit of analysis is country-year. All specifications include a full set of country- and year-fixed effects. All independent variables are lagged one year. Standard errors are clustered at the country level. \*\*\*p < 0.01, \*\*p < 0.05, \*p < 0.1.

every version, we subtract either 1 or 0.5 points from the accumulated state capacity variable when countries miss a census in a decade and find our results identical to the simple cumulative variable (Table 4).

Third, while all nations could potentially have a minimum of zero and a maximum of six censuses, colonial legacies could influence census administration and state capacity, confounding our results. Scholars have argued that former British colonies inherited higher institutional capacity and human capital stock at the time of independence compared to nations under French, Portuguese, and Belgian colonial rule (Cogneau and Alexander, 2014; La Porta et al., 1998; Landes, 1998).<sup>16</sup> While former French, Belgian, and Portuguese colonies tend to have lower cumulative census scores, we show that these varying colonial legacies do not drive our results in any meaningful way. We capture the effects of different colonial legacies on different countries through sample restrictions and present evidence that our results are not driven by these trends in Table A6 in the Appendix.<sup>17</sup>

<sup>16</sup> For instance, the British established a system of indirect rule—enabling local autonomy and self-governance—while the French relied on direct colonial rule accompanied by repression (Landes, 1998). Others have contrasted liberal British policies regarding missionary schooling to restrictive systems of state education in French dependencies, which led to higher human capital outcomes in British colonies (Cogneau and Moradi, 2014).

Lastly, it might be that civil wars confound the relationship between cumulative census administration, democracy, and inequality. Civil wars are indeed the principal reason why nations are not able to take on censuses. Yet, while having a dreadful short-term effect on state capacity, not all civil wars lead to a deterioration of state capacity in the long term, which our measure intends to capture. As suggested by [Pagalayan \(2020\)](#), civil wars might incentivize central states to cater more public goods to sub-national regions that had been neglected by central governments before the conflict. In some cases, states have indeed started to conduct censuses rather quickly after civil wars with the aim of gathering information on citizens to provide better public services to them ([Verpoorten, 2012](#)). This discussion prescribes that we should not expect a clear relationship between civil wars and census administration proxying for state capacity. We account for these concerns by introducing control variables for civil conflict and ethnic fractionalization, variables commonly connected to domestic conflicts.

Our cumulative census measure is correlated to a reasonable degree with other proxies of state capacity. It has a .55 correlation with GDP per capita, a 0.33 correlation with tax revenue (as a percentage of GDP), and a 0.45 correlation with school enrollment. This suggests that the cumulative census variable is a reasonable proxy for “fiscal” state capacity. Our indicator has a slightly weaker association with “legal capacity”—property rights protection and contract enforcement. Our measure has a 0.39 correlation with Fraser Institute’s Economic Freedom Index, and 0.35 and 0.40 correlations with Property Rights Protection and Enforcement of Legal Contracts indicators in the same data base, respectively. Our indicator is not correlated with the Gini index (0.03), which relieves the concern that censuses might be especially likely to be absent in low- or high-inequality nations.

**Control Variables:** Besides country- and year-fixed effects, we add a series of control variables to account for alternative factors that might be associated with inequality changes (in our baseline models). We add the log of GDP per capita to control for the level of economic development. We include trade openness as an indicator of economic openness, measured as imports and exports as a percent of GDP ([Reuveny and Quan, 2003](#)). Inflation captures the macroeconomic situation of the country. Finally, we include the urban share of the population to account for the structure of the economy. Our control variables come from the World Development Indicators (WDI) of the World Bank. Descriptive statistics for these control variables are presented in the Appendix ([Table A1](#).) We discuss the measurement of FDI, financial development, and other control variables in Section 6.

## 5. Results

We start the presentation of our results with models without the interaction term ([Table 1](#)). Our results directly replicate previous studies of inequality ([Dorsch and Maarek, 2019; Gradstein and Milanovic, 2004; Timmons, 2010; Wong, 2016](#)). Models 1 and 2—using the MI approach, as suggested by [Solt \(2016\)](#)—show a lack of association between the Boix (Model 1) and Polity (Model 2) indicators of democracy and net inequality, respectively, while controlling for covariates typically used in the literature and considering country- and year-fixed effects.

In order to capture the conditional effect—and following [Dorsch and Maarek, 2019](#)—we first add an interaction between our binary Boix democracy indicator and the cumulative census score prior to democratization, therefore using a fixed state capacity variable for these interaction terms (Models 3 and 5).<sup>17</sup> Model 3 presents results with MI estimation, Model 5 with imputed series. The results from columns 3 and 5 directly support our counterintuitive theoretical contentions: democratization and state capacity interact positively in producing higher inequality levels.<sup>18</sup> Very similar coefficients are produced using the means of the imputed series.<sup>20</sup>

These effects are substantively meaningful. The dichotomous democracy indicator allows us to calculate the long-run effect of democratic transitions under different levels of state capacity. The shift from democratic to authoritarian under the highest value of state capacity (six censuses) results in an increase in future inequality of 3.7 Gini points (Model 3), holding all other variables constant at their means. We follow the advice of [Berry et al. \(2012\)](#) and present the conditional effect of democracy at different levels of state capacity graphically, using the results from Model 5 ([Table 1](#)). [Fig. 2](#) shows that democracy has a positive effect on income inequality when state capacity is high at the moment of democratization (approximately two census iterations). To get a better sense of these results, [Table 1](#) also provides the marginal impacts of the interaction term.

We obtain a similar result using the Polity continuous indicator as our democracy indicator (Models 4 and 6). While the continuous indicator does not allow us to calculate long-run effects, it allows us to evaluate the marginal impact of more gradual shifts in regime type, conditional on lagged levels of cumulative censuses (lagged in one period). Under the maximum level of state capacity (six censuses), the shift from full authoritarianism to full democracy (from -9 [10th percentile] to 10 [90th percentile] in Polity

<sup>17</sup> [Table A3](#) I shows that British colonies (with a cumulative census score of 4.5 in 2010) seemed to conduct more censuses than the French (3.38 in 2010), Belgian (3 in 2010) and Portuguese (4 in 2010) ones in the 1950s, and also have a higher cumulative census score in 2010. Yet, as we show in [Table A6](#), varying colonial legacies do not confound our results.

<sup>18</sup> The advantage of this approach is that it allows us to calculate the long-run effects of shifts from autocracy to democracy. Following Dorsch and Maarek (2019, eq. (4)) and [Brambor et al. \(2006\)](#), we define the marginal effect of democracy when we include the interaction term as  $\partial\text{Gini} / \partial\text{Democracy} = 1 + 3 * \text{State Capacity}$ , for which the long-run effect is given by  $1 + 3 * \text{State Capacity}(\text{Max, Med})$  1–0.

<sup>19</sup> For Models 5 and 6, the stationarity of residuals were tested using conventional panel unit root tests. Thus, Fisher’s tests with both the Augmented Dickey Fuller and the Phillips-Perron specifications were implemented. We report these tests in [Table A4](#) in the Appendix. All variables in the main models were tested (models 5 and 6 in [Table 1](#)) i.e., dependent independent ones. All tests also included parameters to test for trend and drift. All tests included one lag, which is the same lag structure used in the estimation procedures. These tests were implemented using the “xtfisher” routine in Stata (v. 15). As the table suggests, most tests indicate stationary residuals at conventional levels of statistical significance.

<sup>20</sup> We prefer the median imputed series specification, as it is not as computationally intensive as MI models, while results are identical.

**Table 3**

Effect of democracy and state capacity on the net gini index: Robustness.

	Mean Imputed series					
	5-year Panels		OECD Excluded		Warsaw Pact Excluded	
	(1) Boix	(2) Polity	(3) Boix	(4) Polity	(5) Boix	(6) Polity
Gini Lagged	0.714*** (0.032)	0.689*** (0.034)	0.942*** (0.007)	0.935*** (0.008)	0.937*** (0.006)	0.936*** (0.007)
Boix Democracy	-1.177** (0.555)		-0.112 (0.135)		-0.175* (0.105)	
Polity Democracy		-0.082** (0.041)		-0.024*** (0.008)		-0.003 (0.010)
Cumulative Census	0.024 (0.237)	0.448 (0.352)	0.153*** (0.049)	-0.068 (0.077)	0.092** (0.042)	-0.081 (0.075)
Boix *Cumulative Census	0.515*** (0.170)		0.080** (0.040)		0.093*** (0.032)	
Polity*Cumulative Census		0.041*** (0.013)		0.003* (0.002)		0.009*** (0.003)
Inflation	0.000 (0.000)	0.001 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000** (0.000)
Urban Population	-0.006 (0.028)	0.001 (0.029)	0.011* (0.007)	0.007 (0.007)	0.001 (0.005)	-0.003 (0.006)
Trade	0.013** (0.005)	0.002 (0.005)	0.002** (0.001)	0.000 (0.001)	0.001 (0.001)	0.000 (0.001)
GDP (log)	0.501*** (0.101)	1.692*** (0.481)	0.486*** (0.103)	0.540*** (0.101)	0.383*** (0.089)	0.460*** (0.103)
LR effect at Census = 6	6.69		6.34		6.08	
LR effect at Census = 3	1.29		2.21		1.65	
Marg. impact at Census = 6	1.913	0.450	0.368	0.01	0.383	0.05
Marg. impact at Census = 3	0.368	0.198	0.128	-0.02	0.104	0.02
Observations	692	665	3170	2987	3782	3469
R-squared	0.967	0.969	0.984	0.985	0.990	0.990

**Notes:** The dependent variable is the net Gini coefficient and the main explanatory variables are lagged democratic scores from Boix et al. (2013) and Polity IV by Marshall et al. (2016) interacted with the cumulative census variable. Models 1 and 2 consider 5-year panels, while for Models 3–6, the unit of analysis is country-year. All specifications include a full set of country- and year-fixed effects. Standard errors are clustered at the country level. \*\*\*p < 0.01, \*\*p < 0.05, \*p < 0.1.

scores) would result in a 4.5-Gini-point increase in inequality in 10 years, holding all other variables constant at their means. The marginal effects of Polity are presented in Fig. 3.

### 5.1. 2SLS and GMM estimations

**Table 2** (Models 1–4) presents results from 2SLS instrumental variable regressions for both of our democracy indicators (Boix and Polity) with the means of imputed series. We consider both democracy and its interaction term with cumulative census values as endogenous and instrument for them with regional democracy share/scores and an interaction of the latter with the cumulative census indicator. We perform these analyses for our two democracy variables. We present the first stage's results in the Appendix (**Table A5**), where we demonstrate a positive association between our regional instruments, our democracy indicators, and second-stage results, with required statistics, in **Table 2**. In order to have an over-identified specification, as a third excluded instrument, we also use the regional wave measure from five years before our one-year lagged democratization/democracy score regressor (the sixth lag of the share of a country's region that is democratically governed, in the case of the Boix indicator).

In addition, we present F-statistics of excluded instruments for the first-stage regressions in **Table 1**. Cragg–Donald F-statistics give evidence that the set of instruments is strong (above the rule of thumb of 10). The large p-values in the Hansen J statistics also confirm that the excluded instruments are exogenous. The results from the 2SLS procedure are similar to those in **Table 1**, with coefficients of interaction term larger in size. The shift from democratic to authoritarian rule under the highest value of state capacity results in an 8-Gini-point increase in inequality in the long run, holding all other control variables constant at their means (Model 1).

In Models 3 and 4, we further probe the validity of our instrumental variable strategy by including various control variables that might confound the conditional effect of democracy and state capacity on inequality. First, given that civil conflicts are likely to affect both census administration and inequality, we control for lagged events of civil conflict by including an indicator from the Uppsala Conflict Data Program and the Peace Research Institute (UCDP/PRIO) Armed Conflict Dataset (Gleditsch et al., 2002). Second, left governments are more likely to engage in redistributive policies and investments in state capacity. We grasp this effect through the left partisanship indicator from the Database of Political Institutions (Beck and Demirguc-Kunt, 2008). Third, we also control for Official Development Aid (ODA) as a percentage of GDP to account for its possible effects on census administration. Fourth, ethnic diversity could hinder redistributive policies (Pfefinger and Sturm, 2020), which we account for by controlling for the Herfindahl index from the Ethnic Power Relations (EPR) Core Dataset (Cederman, Wimmer, and Min, 2010). Lastly, we control for the Fraser Institute

**Table 4**

Effect of democracy and state capacity (penalized variables) on the net gini index.

	Mean Imputed series			
	(1)	(2)	(3)	(4)
	Boix Penalized 1	Polity Penalized 1	Boix Penalized 0.5	Polity Penalized 0.5
Lagged Gini	0.937*** (0.006)	0.941*** (0.006)	0.938*** (0.006)	0.940*** (0.006)
Boix Democracy	-0.209** (0.092)		-0.184* (0.105)	
Polity Democracy		-0.023*** (0.007)		-0.024*** (0.008)
Cumulative Census	-0.011 (0.037)	-0.100*** (0.038)	0.048 (0.041)	-0.026 (0.046)
Boix Democracy*Cumulative Census	0.069*** (0.025)		0.060** (0.027)	
Polity*Cumulative Census		0.007*** (0.002)		0.007*** (0.002)
GDP (log)	0.441*** (0.084)	0.429*** (0.082)	0.443*** (0.084)	0.435*** (0.082)
Inflation	0.000* (0.000)	0.000** (0.000)	0.000* (0.000)	0.000** (0.000)
Urban Population	-0.003 (0.005)	-0.001 (0.005)	-0.003 (0.005)	-0.002 (0.005)
Trade	0.001 (0.001)	0.000 (0.001)	0.001 (0.001)	0.000 (0.001)
Constant	-1.846** (0.901)	-1.870** (0.878)	-1.930** (0.900)	-1.958** (0.879)
Long-run effect at Census = 6	3.25	0.32	2.84	0.3
Long-run effect at Census = 3	-0.03	-0.03	-0.06	-0.05
Marginal impact at Census = 6	0.205	0.019	0.176	0.018
Marginal impact at Census = 3	-0.002	-0.002	-0.004	-0.003
Observations	4034	3977	4034	3977
R-squared	0.990	0.991	0.991	0.991

**Notes:** The dependent variable is the net Gini coefficient and the main explanatory variables are one-period-lagged democratic scores from Boix et al. (2013) and Polity IV by Marshall et al. (2016) interacted with the penalized cumulative census variable. The unit of analysis is country-year. All specifications include a full set of country- and year-fixed effects. All independent variables are lagged one year. Standard errors are clustered at the country level. \*\*\*p < 0.01, \*\*p < 0.05, \*p < 0.1.

Index of Economic Freedom, a summary index constructed from five components (size of government, legal system and property rights, sound money, freedom to trade internationally, and regulation) (Krieger and Meierrieks, 2016). In both models, our results remain unaltered, for both the Boix et al. (2013) and Polity measures.

To further bolster the robustness of our conclusions, we also provide results using the system method-of-moments estimator (GMM) introduced by Arellano and Bond (1991) and Arellano and Bover (1995) (Models 5 and 6). The GMM system uses lagged explanatory variables in levels and differences as instruments. AR(1) and AR(2) in Table 2 report the p-values for first- and second-order autocorrelated disturbances in the first differences equations, where the null denotes no correlation. The first-order serial correlation AR(1) is expected since we are including lags as instruments. However, a correlation at higher orders than 1 would lead to an inconsistent estimator. Hence, the null should not be rejected for AR(2). Our results are robust to GMM estimation.

## 5.2. Robustness tests

In Table 3, we present further robustness tests considering some intuitive sample restrictions. In Models 1 and 2, we replicate our results with 5-year panels. The effect of political variables on distributive outcomes is usually slow-moving, and democracy might take time to produce results, so longer panel lengths may capture more substantive variation in the variables between each observation (Dorsch and Maarek, 2019). We take the variables' values in the first year of each five-year time period, starting from 1970 (independent variables are lagged by one panel period). We demonstrate that identical results to annual panels are obtained using 5-year panels, interacting Boix (Model 1) and Polity IV (Model 2) variables with our cumulative census indicator.<sup>21</sup> A shift from autocracy to democracy under the highest cumulative census value (6) results in a 7-Gini-point increase in inequality in the long term.

In Models 3 and 4, we replicate our main results, excluding industrial countries from the sample. We replicate our results with both democracy measures. Therefore, we are certain that our results are not driven by an increasing inequality trend in the industrial world since the 1970s but can be generalized more widely to other regions (Atkinson, 2015; Piketty, 2014). In Models 3 and 4, we

<sup>21</sup> Lagged variables are thus lagged by one panel period.

**Table 5**

Effect of democracy and state capacity on the market gini index and redistribution.

	Mean Imputed series			
	(1) Boix	(2) Polity	(3) Boix	(4) Polity
	DV: Market Gini	DV: Market Gini	DV: Redistribution	DV: Redistribution
Gini Lagged	0.985*** (0.003)	0.986*** (0.003)		
Redistribution Lagged			0.867*** (0.009)	0.871*** (0.008)
Boix Democracy	-0.224*** (0.035)		-0.242** (0.099)	
Polity Democracy		-0.023*** (0.002)		-0.013* (0.007)
Cumulative Census	-0.004 (0.014)	0.021 (0.022)	-0.099** (0.039)	0.091 (0.062)
Boix*Cumulative Census	0.066*** (0.010)		0.028 (0.030)	
Polity*Cumulative Census		0.007*** (0.001)		0.001 (0.002)
GDP (log)	0.025 (0.028)	0.021 (0.028)	-0.385*** (0.081)	-0.433*** (0.079)
Inflation	0.000*** (0.000)	0.000*** (0.000)	-0.000 (0.000)	-0.000 (0.000)
Urban Population	-0.005*** (0.002)	-0.004** (0.002)	-0.016*** (0.005)	-0.013*** (0.005)
Trade	-0.000 (0.000)	-0.001** (0.000)	-0.002** (0.001)	-0.002* (0.001)
Long-run effect at Census = 6	11.47		-0.07	
Long-run effect at Census = 3	-1.73		-0.16	
Marginal impact at Census = 6	0.17	0.019	-0.07	-0.007
Marginal impact at Census = 3	-0.026	-0.002	-0.16	-0.01
Observations	4019	3962	4019	3962
R-squared	0.998	0.998	0.988	0.988

**Notes:** The dependent variable for Models 1 and 2 is the market Gini coefficient and, for Models 3 and 4, redistribution. The main explanatory variables are one-period-lagged democratic scores from Boix et al. (2013) and Polity IV by Marshall et al. (2016) interacted with the cumulative census variable. The unit of analysis is country-year. All specifications include a full set of country- and year-fixed effects. All independent variables are lagged one year. Standard errors are clustered at the country level. \*\*\*p < 0.01, \*\*p < 0.05, \*p < 0.1.

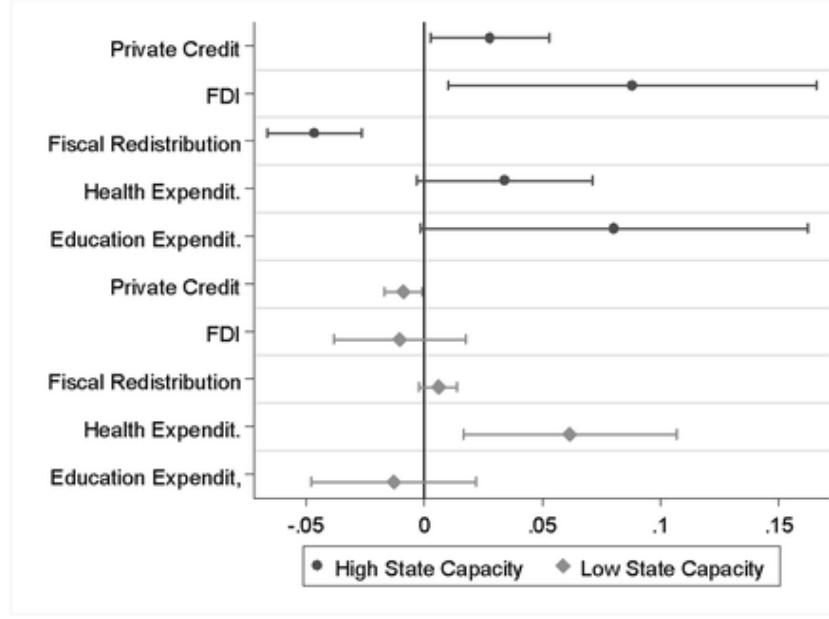
find an identical effect when excluding former Warsaw Pact nations, where inequality increased after democratization in a relatively high-capacity context. Both long-run and marginal effects look similar to those of previous models. *Further robustness.* The colonial origins of the countries could also affect our results. In Table A6., we exclude French and British developing world colonies from our sample, and replicate our results. This gives evidence that different colonial legacies affecting state capacity do not affect our results.

We also test the robustness of our results using a variable which introduces a penalty to the cumulative census score when countries miss the census in a decade in Table 4. In Models 1 and 2 we subtract 1 and Models 3 and 4 0.5 points from the accumulated state capacity variable when countries miss a census, interacting these variables with our Boix et al. and Polity democracy indicators. These interaction terms remain significant and the substantive effects are similar to our baseline models in Table 1. In addition, to probe the robustness of our results to other democracy indicators, we show identical results to Table 1 with the democracy variables developed by Cheibub et al. (2010) and Dorsch and Maarek, 2019) (based on Papaioannou and Siourounis, (2008) and Acemoglu et al., [2015; 2019]; see Appendix [Table A7]).

Lastly, we also explore if the inequality-increasing effect of democracy under high capacity works primarily through market (gross) inequality, as we have hypothesized in Section 3, rather than redistribution. In Models 1 and 2 (Table 5), we document a positive interactive effect of Boix et al. (2013) and Polity variables and the cumulative census variable on market inequality. In Models 3 and 4, we find no interactive effect of democracy variables and state capacity on fiscal redistribution (measured as an absolute difference between market and net inequality). This provides evidence that the impact of high-capacity democracy on the net Gini mostly occurs through changes in market income distribution rather than redistribution. Fiscal redistribution is not greater in high-capacity democracies, showing that it is not likely to offset inequality-increasing changes occurring in the market phase. Next, we turn to a test of concrete policy channels through which high-capacity democracies promote higher inequality.

## 6. Mechanisms

In this section we empirically test the causal mechanisms underlying our theory. We expect democratic rule to be positively associated with FDI inflows and the size of the financial sector only when state capacity exceeds a minimum level. We do not expect democratic rule to have an effect on these variables under low capacity, given the state's inability to provide contract and property



**Note:** This figure shows the estimated marginal effect of Polity on a series of policy areas for the subsamples with high state capacity (black dots) and low state capacity (gray diamonds), where the subsample cutoff is a cumulative census score of 3. The lines around the point estimates represent 95% confidence intervals.

**Fig. 4.** Policy Channels of Democratic Effect on Inequality at Different Levels of State Capacity.

**Table 6**

Effect of private credit and FDI stock on net and market gini indexes.

	Mean Imputed Series			
	(1)	(2)	(3) GMM	(4) GMM
Lagged Gini	0.937*** (0.006)	0.934*** (0.007)	0.996*** (0.002)	0.996*** (0.002)
GDP per capita (log)	0.371*** (0.092)	0.377*** (0.097)	-0.007 (0.017)	0.009 (0.015)
Urban Population	-0.005 (0.005)	-0.004 (0.005)	-0.001 (0.001)	-0.001 (0.001)
Inflation	0.000*** (0.000)	0.000*** (0.000)	0.001** (0.000)	0.000** (0.000)
Trade	0.001 (0.001)	0.001 (0.001)	0.000 (0.000)	0.000 (0.000)
Private credit	0.003*** (0.001)		0.001* (0.001)	
FDI stock		0.044** (0.022)		0.029** (0.012)
Constant	-1.417 (0.978)	-0.782 (1.071)	0.054 (0.180)	-0.063 (0.185)
Hansen J-stat p-value			0.23	0.11
Number of Instruments			120	78
AR(1)			0.00	0.00
AR(2)			0.173	0.037
Observations	3840	3898	3013	2964
R-squared	0.991	0.991	0.991	0.991

**Notes:** The dependent variable is the net Gini coefficient. The main explanatory variables are one-period-lagged Private Credit and FDI stock. Models 3 and 4 present results from system GMM analysis. The unit of analysis is country-year. All specifications include a full set of country- and year-fixed effects. All independent variables are lagged one year. Standard errors are clustered at the country level. \*\*\*p < 0.01, \*\*p < 0.05, \*p < 0.1.

rights security. For reasons outlined in Section 3, we do not anticipate a positive effect of democracy on fiscal redistribution and government spending in high-capacity contexts. Lastly, we also expect to see a positive association between FDI stock and financial development and inequality.

We measure financial development with an indicator commonly used in studies of financial development: private credit by deposit money banks and other financial institutions to GDP. This measurement captures the ratio of claims on the private sector by de-

posit money banks and other financial institutions to GDP ([Beck et al., 2010](#)). FDI is measured by annual FDI inflows to a country as a percentage of GDP, retrieved from WDI. We proxy fiscal policy through the fiscal redistribution measure introduced above and public goods provision through healthcare and education spending (as a percentage of GDP) and education levels through secondary school enrollment.

To investigate these policy mechanisms driving our theory, we present a series of split-sample regressions. For each policy area, we split the sample with respect to the level of state capacity at which the estimated impact of the Polity index on the Gini coefficient switches from positive to negative (at 3 from Model 6 of [Table 1](#)). We test these relationships using similar fixed-effects regressions as in the main analysis while controlling for GDP per capita, GDP annual change, and country- and year-fixed effects. To facilitate exposition, we have plotted the Polity coefficients for each of these 10 regressions in [Fig. 4](#). Lines around the point estimates represent 95% confidence intervals. [Tables A8 and A9](#) in the Appendix present the fixed-effects panel regressions that underlie the coefficient plots presented in [Fig. 4](#).

[Fig. 4](#) provides evidence that democratic rule favors FDI inflows and financial sophistication only in contexts where minimal state capacity has been met. Under low values of state infrastructural power, democracy lacks a relationship with these variables. This suggests that a minimal level of state capacity is necessary for democratic rule to improve the investment climate. By contrast, we find little evidence that democratic rule promotes fiscal redistribution and public goods provision in high-infrastructural power contexts. Democratic rule has a positive effect on health expenditure only in low-capacity contexts. As [Knutsen \(2013\)](#) and [Hanson \(2015\)](#) have argued, democratic rule may operate as a substitute for a capable state in providing better public goods in low-capacity contexts. This is explained by the special propensity of dictatorial rulers to choose non-welfare-promoting policies under low state capacity ([Wintrobe, 1998](#)). According to this rationale, a shift from dictatorship to democracy produces greater investments in redistributive social policy under low state capacity compared to democratization under high state capacity.

Lastly, we expect to see a positive association between FDI inflows and financial development and inequality. To test this relationship, we use our baseline model (Model 3 in [Table 1](#)) and add lagged private credit and FDI stock (as percentage of GDP) as independent variables, while excluding democracy and state capacity variables ([Table 6](#)). Using net inequality as the outcome variable, Model 1 demonstrates a statistically significant relationship with Private Credit, while Model 2 displays a significant association between FDI stock and the Gini index. Models 3 and 4 produce similar results using system GMM analysis.

## 7. Conclusion

In this paper, we have explored whether the effect of democratic rule on income inequality is conditional on state capacity. Counterintuitively, we argue that democratization and democratic rule in the context of high state infrastructural power is associated with increases in income inequality. Larger financial sectors and FDI inflows favor income concentration through market incomes. To test our hypothesis, we introduced a novel measure of state capacity based on cumulative census administration. Our empirical results are robust to instrumental variable and GMM estimation and various alternative measures of democracy, and they apply beyond the context of the industrial world, a high-capacity democratic context where inequality has increased sharply in recent decades. In addition, we also test the mechanisms of our theory, finding consistent support for our claim that the interactive effect of democratic rule and infrastructural power posited in our main analysis might operate through financial development and FDI.

We join the recent literature in exploring the conditional relationship between democracy and inequality. Our contribution is parallel and complementary to that of Dorsch and Maarek (2019), who argue that the effect of democracy on inequality is conditioned by the level of inequality at the moment of democratization. Consistently with our findings, they show that inequality tends to increase after democratic transitions in autocratic nations that had developed a strong state to deliver public goods to the poor, given that their policies tend to move towards the “middle ground” after democratization. By contrast, in regimes that democratize under low capacity, inequality is usually high, which leads to greater catering to demands by median voters for larger redistribution, resulting in a decrease in income inequality after democratization.

[Albertus and Menaldo \(2018\)](#) stress another set of factors—authoritarian constitutions and other institutional legacies—that pose obstacles to fiscal redistribution after democratization and affect inequality that way. In this paper, we stress the inequality-increasing mechanisms associated with democratic rule in high-state-capacity contexts. We believe our conclusion speaks directly to recent scholarship on increasing inequality in the developed world and many regions of the developing world, reflecting the natural tendency of well-functioning capitalism to produce higher income concentration ([Piketty, 2014](#)). Institutional literature has implicitly assumed that “inclusive institutions” promote not only development but also more equal income distribution, at least in the long term ([Acemoglu et al., 2001](#)). In this paper, we have provided evidence that this conclusion may not be warranted and “inclusive” institutions—captured in the combination of democratic regime type and high-capacity state institutions—might well lead to a trend of steady increases in income inequality, which we argue happens through financial development and FDI inflows. Further research should clarify the additional pathways through which high-capacity state institutions and democratic regime type affect inequality.

## Data availability

Data available upon request.

## Appendix

**Table A1**  
Descriptive Statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
Net Gini	4636	38.59	8.70	20.43	60.88
Market Gini	4622	45.56	6.41	22.23	70.54
Redistribution	4622	6.99	7.39	-13.86	25.43
Cumulative Census	4449	3.42	1.36	0	6
Polity	4445	3.80	6.59	-10	10
Boix Democracy	3843	0.58	0.49	0	1
GDP per capita	4225	12167.37	16971.26	182.71	111968.30
Urban Population share	4464	53.72	23.51	4.99	100.00
Trade	7144	70.59	47.25	0.02	441.60
Inflation	4344	41.62	410.73	-98.70	15444.38
Private Credit	4127	40.42	36.20	0.85	262.46
FDI Inflows	4089	3.64	13.48	-58.32	451.72
Health Expenditure	2616	3.53	2.05	0.27	10.05
Education Expenditure	2528	4.39	1.66	0	13.21957
Ethnic Diversity	4479	0.42	0.25	0.01	0.93
Civil Conflict	4636	0.22	0.42	0	1
ODA	2969	5.20	8.50	-0.68	181.10
Left	4636	0.56	0.50	0	1
Fraser Index	2105	6.59	1.07	2.47	8.88
Democracy Cheibub (2010)	3928	0.59	0.49	0	1
Democracy Dorsch and Maarek (2019)	4374	0.66	0.47	0	1

**Table A2**  
List of Countries

Afghanistan, Albania, Argentina, Armenia, Australia, Austria, Bahamas, Bangladesh, Barbados, Belarus, Belgium, Benin, Bhutan, Bolivia, Bosnia, Botswana, Brazil, Bulgaria, Burkina Faso, Cambodia, Cameroon, Canada, Chad, Chile, China, Colombia, Costa Rica, Croatia, Cyprus, Czech Rep., Denmark, Djibouti, Ecuador, Egypt, El Salvador, Estonia, Ethiopia, Finland, France, Gambia, Georgia, Germany, Ghana, Greece, Guatemala, Guinea, Haiti, Honduras, Hungary, Iceland, India, Indonesia, Iran, Ireland, Israel, Italy, Japan, Jordan, Kazakhstan, Korea, Rep., Latvia, Lebanon, Lesotho, Liberia, Lithuania, Luxembourg, Macedonia, Madagascar, Malawi, Malaysia, Maldives, Malta, Mauritania, Mauritius, Mexico, Moldova, Mongolia, Morocco, Myanmar, Namibia, Nepal, Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Pakistan, Panama, Paraguay, Peru, Philippines, Poland, Portugal, Qatar, Romania, Russia, Rwanda, Senegal, Seychelles, Sierra Leone, Singapore, Slovakia, Slovenia, South Africa, Spain, Sri Lanka, Sweden, Switzerland, Taiwan, Tajikistan, Tanzania, Thailand, Togo, Tunisia, Turkey, Uganda, Ukraine, United Kingdom, United States, Uruguay, Vanuatu, Venezuela, Zambia, Zimbabwe.

**Table A3**

Country	Independence year	Prior ruling country/empire	Censuses under other countries
Armenia	1991	Soviet Union	1959, 1970, 1979, 1989
Bangladesh	1971	Pakistan	1951, 1961
Belarus	1991	Soviet Union	1959, 1970, 1979, 1989
Benin	1960	France	—
Bosnia	1992	Yugoslavia	1953, 1961, 1971, 1981, 1991
Botswana	1966	Britain	1946, 1964
Burkina Faso	1960	France	—
Cameroon	1960	France	—
Chad	1960	France	—
Croatia	1991	Yugoslavia	1953, 1961, 1971, 1981, 1991
Cyprus	1960	Britain	1960
Czech Rep.	1992	Czechoslovakia	1950, 1961, 1970, 1980, 1991
Djibouti	1977	France	1967
Eritrea	1993	Ethiopia	1984
Estonia	1991	Soviet Union	1959, 1970, 1979, 1989
Gambia	1965	Britain	1963
Georgia	1991	Soviet Union	1959, 1970, 1979, 1989
Ghana	1957	Britain	—
Guinea	1958	France	—
Kazakhstan	1991	Soviet Union	1959, 1970, 1979, 1989
Latvia	1991	Soviet Union	1959, 1970, 1979, 1989
Lesotho	1966	Britain	1956
Lithuania	1991	Soviet Union	1959, 1970, 1979, 1989
Macedonia	1991	Yugoslavia	1953, 1961, 1971, 1981, 1991
Madagascar	1960	France	—

Country	Independence year	Prior ruling country/empire	Censuses under other countries
Malawi	1964	Britain	–
Malaysia	1963	Britain	1951, 1960
Mauritania	1960	France	–
Morocco	1956	France	–
Namibia	1990	South Africa	1960, 1970, 1981
Niger	1960	France	–
Nigeria	1960	Britain	–
Russia	1991	Soviet Union	1959, 1970, 1979, 1989
Rwanda	1962	Belgium	–
Senegal	1960	France	–
Seychelles	1976	Britain	1960, 1971
Sierra Leone	1961	Britain	–
Singapore	1965	Malaysia	1957
Slovakia	1992	Czechoslovakia	1950, 1961, 1970, 1980, 1991
Slovenia	1991	Yugoslavia	1953, 1961, 1971, 1981, 1991
Tajikistan	1991	Soviet Union	1959, 1970, 1979, 1989
Tanzania	1961	Britain	1948, 1957
Togo	1960	France	–
Tunisia	1956	France	–
Uganda	1962	Britain	1948, 1959
Ukraine	1991	Soviet Union	1959, 1970, 1979, 1989
Vanuatu	1980	France	1967
Vietnam	1976	France	–
Zambia	1964	Britain	1950, 1963
Zimbabwe	1980	Britain	1962, 1969

**Table A4**Unit Root Tests for Main Models (5) and (6) in [Table 1](#)

Variable	Fisher			Phillips-Perron	Conclusion
	No trend/drift	Trend	Drift		
Gini	0.6670	0.1793	0.0000	0.0000	Stationarity
Boix Democracy	1.0000	1.0000	0.0000	1.0000	Unit root
Polity Democracy	0.0063	0.0000	0.0000	0.0000	Stationarity
Cumulative Census	1.0000	0.0000	0.0000	1.0000	Stationarity
GDP (log)	0.9702	0.0978	0.0000	0.0860	Stationarity
Inflation	0.0000	0.0000	0.0000	0.0000	Stationarity
Urban Population	0.0000	0.0000	0.0000	0.0000	Stationarity
Trade	0.0007	0.0000	0.0000	0.0000	Stationarity

Note: Fisher's tests with both the Augmented Dickey Fuller and the Phillips-Perron specifications were implemented. The values in the table are combined p-values from different independent unit root tests (one per panel). All variables in the main models were tested (models 5 and 6 in [Table 1](#)). All tests also included parameters to test for trend and drift. All tests included one lag (same lag structure as the estimation strategy). These tests were implemented using the "xtfisher" routine in Stata (v. 15). The alternative hypothesis is stationarity. As the table suggests, most tests indicate stationary residuals at conventional levels of statistical significance.

**Table A5**  
First-Stage Results

	(1)	(2)	(3)	(4)	(5)	(6)
	DV: Democracy (Boix)	DV: Democracy (Boix)	DV: Boix*Cumulative Census	DV: Democracy (Polity)	DV: De-mocracy (Polity)	DV: Polity*Cumulative Census
L. Boix Regional share	0.934*** (0.045)	1.130*** (0.048)	0.067 (0.142)			
L6. Boix Regional share	0.030 (0.036)	0.085** (0.037)	-0.007 (0.109)			
Boix Regional share *Cumulative Census		-0.101*** (0.007)	0.754*** (0.022)			
L. Polity Region Average				1.223*** (0.120)	1.375*** (0.126)	1.349*** (0.358)
L6. Polity Region Average				1.451*** (0.312)	0.128 (0.317)	0.124 (0.380)
Polity Region Average *Cumulative Census					-0.029*** (0.009)	0.765*** (0.027)
GDP (log)	-0.124***	-0.078***	0.002	-2.738***	-2.578***	-2.002***

	(1)	(2)	(3)	(4)	(5)	(6)
	DV: Democracy (Boix)	DV: Democracy (Boix)	DV: Boix*Cumulative Census	DV: Democracy (Polity)	DV: De-mocracy (Polity)	DV: Polity*Cumulative Census
Inflation	(0.013)	(0.014)	(0.042)	(0.200)	(0.205)	(0.601)
	-0.000	-0.000	0.000	0.000***	0.000***	0.001
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Urban Population	0.001	-0.003***	-0.019***	0.100***	0.088***	-0.013
	(0.001)	(0.001)	(0.003)	(0.012)	(0.013)	(0.037)
Trade	0.001***	0.001***	0.001*	0.014***	0.019***	0.062***
	(0.000)	(0.000)	(0.001)	(0.003)	(0.003)	(0.009)
Observations	6543	6139	6039	5676	5589	5589
R-squared	0.70	0.56	0.67	0.53	0.71	0.49

**Notes:** The dependent variables are Boix et al. (2013) (Models 1 and 2) and Polity IV by Marshall et al. (2016) (Models 4 and 5) and their interaction with cumulative census values (Models 3 and 6). The key independent variables include lags of regional democracy share/average indicators and their interaction with cumulative census values. The unit of analysis is country-year. All specifications include a full set of country- and year-fixed effects. Standard errors are clustered at the country level. \*\*\*p < 0.01, \*\*p < 0.05, \*p < 0.1.

**Table A6**

Effect of Democracy and State Capacity on the Net Gini Index: Sample restrictions

	Mean Imputed Series			
	(1)		(2)	
	Boix French Colonies Excluded	Polity French Colonies Excluded	Boix British Colonies Excluded	Polity British Colonies Excluded
Gini Lagged	0.946*** (0.006)	0.945*** (0.006)	0.953*** (0.006)	0.959*** (0.006)
Boix Democracy	-0.240** (0.108)		-0.384*** (0.101)	
Polity Democracy		-0.021*** (0.007)		-0.027*** (0.007)
Cumulative Census	0.096** (0.041)	-0.037 (0.073)	0.036 (0.039)	0.015 (0.064)
Boix Democracy*Cumulative Census	0.107*** (0.032)		0.146*** (0.030)	
Polity Democracy*Cumulative Census		0.007*** (0.002)		0.009*** (0.002)
Inflation	0.000 (0.000)	0.000* (0.000)	0.000 (0.000)	0.000** (0.000)
Urban Population	0.004 (0.005)	-0.002 (0.005)	0.006 (0.005)	0.001 (0.005)
Trade	0.002** (0.001)	0.001 (0.001)	0.003*** (0.001)	0.001 (0.001)
GDP (log)	0.388*** (0.081)	0.412*** (0.090)	0.314*** (0.076)	0.329*** (0.080)
Constant	1.584*** (0.522)	-1.878** (0.946)	1.391*** (0.483)	-1.747** (0.846)
Long-run effect at Census = 6	7.44	0.38	10.47	0.66
Long-run effect at Census = 3	1.5	0	1.15	0
Marginal impact at Census = 6	0.402	0.021	0.492	0.027
Marginal impact at Census = 3	0.081	0	0.054	0
Observations	3775	3602	3372	3205
R-squared	0.991	0.991	0.993	0.993

**Notes:** The dependent variable is the net Gini coefficient and the main explanatory variables are one-period-lagged democratic scores from Cheibub et al. (2010) and Dorsch and Maarek (2019) interacted with the cumulative census variable. The unit of analysis is country-year. All specifications include a full set of country- and year-fixed effects. All independent variables are lagged one year. Standard errors are clustered at the country level. \*\*\*p < 0.01, \*\*p < 0.05, \*p < 0.1.

**Table A7**

Effect of Democracy and State Capacity on the Net Gini Index: Alternative Measures of Democracy

	Mean Imputed Series	
	(1) Cheibub	(2) Dorsch and Maarek
Lagged Gini	0.943*** (0.020)	0.935*** (0.018)

	Mean Imputed Series	
	(1) Cheibub	(2) Dorsch and Maarek
Democracy Cheibub	-0.251 (0.154)	
Democracy Dorsch and Maarek		-0.183 (0.169)
Cumulative Census	0.050 (0.067)	0.035 (0.079)
Democracy Cheibub*Cumulative Census	0.127*** (0.047)	
Democracy Dorsch & Maarek (2019)*Cumulative Census		0.096* (0.055)
GDP (log)	0.427** (0.189)	0.409** (0.190)
Inflation	0.000 (0.000)	0.000 (0.000)
Urban Population	0.004 (0.008)	-0.002 (0.008)
Trade	0.000 (0.002)	-0.000 (0.002)
LR effect at Census = 6	8.96	6.05
LR effect at Census = 3	2.28	1.62
Marginal impact at Census = 6	0.51	0.39
Marginal impact at Census = 3	0.13	0.105
Observations	3445	3905
R-squared	0.993	0.991

**Notes:** The dependent variable is the net Gini coefficient and the main explanatory variables are one-period-lagged democratic scores from Cheibub et al. (2010) and Dorsch and Maarek (2019) interacted with the cumulative census variable. The unit of analysis is country-year. All specifications include a full set of country- and year-fixed effects. All independent variables are lagged one year. Standard errors are clustered at the country level. \*\*\*p < 0.01, \*\*p < 0.05, \*p < 0.1.

**Table A8**  
The Effect of Democracy on FDI and Financial Development

	(1)	(2)	(3)	(4)
	DV: Private Credit	DV: Private Credit	DV: FDI inflows	DV: FDI inflows
	High Capacity	Low Capacity	High Capacity	Low Capacity
Lagged DV	0.883*** (0.008)	0.957*** (0.008)	-0.117*** (0.023)	0.319*** (0.019)
Polity	0.028* (0.015)	-0.009* (0.005)	0.088* (0.047)	-0.010 (0.017)
GDP per capita	0.123*** (0.024)	0.080*** (0.014)	0.086 (0.078)	0.171*** (0.058)
% Change GDP	-0.603*** (0.089)	-0.227*** (0.076)	0.762** (0.310)	0.113 (0.271)
Constant	-0.199 (0.167)	-0.048 (0.033)	0.140 (0.566)	-0.383*** (0.134)
Wald p-value	0.06	0.06	0.05	0.54
Observations	1950	3096	2105	2802
R-squared	0.987	0.971	0.378	0.367

**Notes:** The unit of analysis is country-year. All specifications include a full set of country- and year-fixed effects. All independent variables are lagged one year. Standard errors are clustered at the country level. \*\*\*p < 0.01, \*\*p < 0.05, \*p < 0.1.

**Table A9**  
The Effect of Democracy on Fiscal Redistribution

	(1)	(2)	(3)	(4)	(5)	(6)
	DV: Redistribution	DV: Redistribution	DV: Health Expenditure	DV: Health Expenditure	DV: Education Expenditure	DV: Education Expenditure
	High Capacity	Low Capacity	High Capacity	Low Capacity	High Capacity	Low Capacity
Lagged DV	0.871*** (0.015)	0.830*** (0.012)	0.762*** (0.016)	0.709*** (0.026)	0.612*** (0.035)	0.805*** (0.020)
Polity	-0.046*** (0.012)	0.006 (0.005)	0.034 (0.023)	0.062** (0.027)	0.080 (0.050)	-0.013 (0.021)

	(1)	(2)	(3)	(4)	(5)	(6)
	DV: Redistribution	DV: Redistribution	DV: Health Expenditure	DV: Health Expenditure	DV: Education Expenditure	DV: Education Expenditure
	High Capacity	Low Capacity	High Capacity	Low Capacity	High Capacity	Low Capacity
GDP per capita	-0.012 (0.019)	0.005 (0.017)	0.089** (0.044)	0.235 (0.146)	-0.008 (0.107)	0.118** (0.058)
% Change GDP	-0.172** (0.082)	0.049 (0.099)	-0.624*** (0.115)	-0.514 (0.335)	-0.344 (0.239)	-0.556** (0.245)
Constant	0.159*** (0.053)	0.084 (0.076)	0.170 (0.117)	0.750*** (0.103)	0.124 (0.268)	0.030 (0.118)
Wald p-value	0.00	0.23	0.13	0.02	0.11	0.54
Observations	2020	2056	1770	874	612	1099
R-squared	0.989	0.989	0.972	0.904	0.935	0.935

**Notes:** The unit of analysis is country-year. All specifications include a full set of country- and year-fixed effects. All independent variables are lagged one year. Standard errors are clustered at the country level. \*\*\*p < 0.01, \*\*p < 0.05, \*p < 0.1.

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## Still for sale: the micro-dynamics of vote selling in the United States, evidence from a list experiment

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### Abstract

In nineteenth-century United States politics, vote buying was commonplace. Nowadays, vote buying seems to have declined. The quantitative empirical literature emphasizes vote buying, ignoring the micro-dynamics of vote selling. We seem to know that vote buyers can no longer afford this strategy; however, we do not know what American voters would do if offered the chance to sell their vote. Would they sell, and at what price, or would they consistently opt out of vote selling? A novel experimental dataset representative at the national level comprises 1479 US voters who participated in an online list experiment in 2016, and the results are striking: Approximately 25% would sell their vote for a minimum payment of \$418. Democrats and Liberals are more likely to sell, while education or income levels do not seem to impact the likelihood of vote selling.

**Keywords** Vote buying · Vote selling · Clientelism · List experiments · United States

### Vote sellers and vote buyers

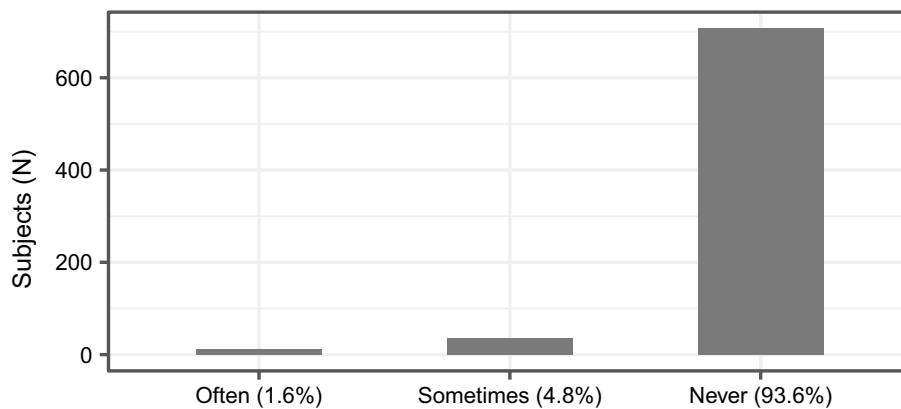
Prior research on clientelism usually focuses on whether parties have attempted to buy votes (Vicente and Wantchekon 2009; Vicente 2014; Rueda 2015, 2017; Reynolds 1980; Nichter 2014; de Jonge 2015; Finan and Schechter 2012; González-Ocantos et al. 2014; Diaz-Cayeros et al. 2012; Brusco et al. 2004). Unfortunately, while this is an important question, it overlooks the conditions under which citizens would sell their vote. In fact, Nichter and Peress (2017) explain that studies continue to view clientelism typically as a top-down process, generally overlooking citizens'

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**Fig. 1** Frequency of clientelism in the United States (2010). Note figure shows the frequency of survey respondents,  $N = 755$ . Source: LAPOP, 2010 wave for the United States. Question is clien1: “In recent years and thinking about election campaigns, has a candidate or someone from a political party offered you something, like a favor, food, or any other benefit or object in return for your vote or support? Has this happened often, sometimes, or never?”

demands. Since several questions pertaining to vote sellers remain unanswered, a bottom-up reconceptualization is necessary. For instance: *What would voters do if offered the chance to sell their vote? Would they sell it? And at what price?*<sup>1</sup>

To illustrate the issue at hand, Fig. 1 shows responses of US citizens asked whether a candidate or a member of a political party has offered something in exchange for their vote, completely ignoring voters’ preferences. The figure begs the question of whether survey respondents who answered “never” *would* still be willing to sell their votes.

It seems that whether studies focus on vote buying or vote selling depends partly on methodological rather than theoretical decisions.<sup>2</sup> On the one hand, historical and/or ethnographically based contributions describe clientelist transactions from the point of view of voters, focusing on the conditions that make vote selling most likely (Posada-Carbó 1996; Sabato 2001; Auyero 2000; Szwarcberg 2013; Borges 2019). On the other hand, statistical, survey, and/or experimentally based work mostly explores issues related to vote buying. For example, using a field experiment in Benin, Wantchekon (2003) stresses the role of incumbency on vote buying. Jensen and Justesen (2014, p. 227) focus on the impact of “poverty on vote buying,” while Khemani (2015, p. 84) shows that “vote buying in poor democracies is associated with lower [public] investments.” Hence, and except for several important quantitative studies (Corstange 2012; Imai et al. 2015; Nicther and Peress 2017; Hicken et al. 2015, 2018; Michael and Thachil 2018), the emphasis of statistical studies remains on studying vote buying. Importantly, other statistically based studies have explored attitudes toward vote buying (Bratton 2008; Weitz-Shapiro 2012).

<sup>1</sup> It is important to note that clientelism as a practice involves more than just buying or selling votes. Other goods might be involved in the clientelist transaction—for instance, public jobs or public infrastructure, e.g., see for example Dixit and Londregan (1996), Calvo and Murillo (2004), and Khemani (2015). However, this paper’s focus is on just vote buying and vote selling.

<sup>2</sup> I thank one of the anonymous reviewers for this comment.



They suggest that a strong stigma is attached to vote buying, which might make voters unwilling to sell their vote. For instance, González-Ocantos et al. (2014, p. 208) designed a list experiment to study attitudes toward vote buying in Latin America. They conclude that most respondents find vote buying “unacceptable when provided with a hypothetical example.”

While the quantitative literature has advanced several important avenues of research, it has overlooked many important questions. The wording of the Latin American Public Opinion Project (LAPOP) question illustrates part of the issue. By focusing on vote buying, it gives the falsely optimistic impression that US voters systematically “oppose” vote buying, “thus” rarely engaging in clientelism (as Fig. 1 strongly suggests). Furthermore, most quantitative studies were conducted primarily in developing countries, seriously narrowing the scope of our inferences. In part, this is because the clientelism literature usually focuses on realized behaviors only—that is, actual clientelist transactions. Unfortunately, by ignoring attitudes of potential vote sellers, particularly when it comes to the willingness to sell, selection bias seriously threatens causal inferences.

This paper makes both methodological and substantive contributions to the literature by leveraging a list experiment on hypothetical vote selling in a consolidated democracy. We believe that studying hypothetical behaviors—such as the willingness to sell—is a valuable exercise. Geddes (1990, p. 131) explains the well-known selection issues of studying “only cases that have achieved the outcome of interest.” Hence, if we are interested in understanding the micro-dynamics of clientelism—particularly as a supply-and-demand issue—we should incorporate the preferences of both sellers and buyers, potential and/or actual. Since the focus of this paper is on the willingness to sell, we believe that we can also learn from *unrealized* clientelist transactions. Following the lead of González-Ocantos et al. (2014), this paper presents experimental evidence of hypothetical vote selling in the United States.

In 2016, a novel dataset representative at the national level was collected. A total of 1479 US voters participated in a list experiment between March 2 and March 6. This experiment made possible both the identification of the demographic factors that would make US voters more likely to sell their vote, and at what price, and the investigation of whether they would systematically lie about selling their vote. The results are striking. The data suggest that a sizable portion of US voters are willing to sell their vote (approximately 25%), would sell it for at least \$418, and would systematically lie about it (approximately 8%). Given that these data are representative at the national level (i.e., this is not a convenient sample), these findings are surprising. Democrats and Liberals are systematically more likely to sell than Republicans. Education and income levels do not seem to have a systematic impact on the willingness to sell.

While this paper essentially describes the phenomenon, it leaves for future research further consideration of the causes of hypothetical vote selling in the United States. Ultimately, this paper attempts to bring voters back into the quantitative study of clientelism, particularly by studying their willingness to sell.



## The United States as a case

At first, many advanced democracies were clientelist political systems. For instance, Stokes et al. (2013, p. 200) explain that in the nineteenth-century United States, “vote buying was commonplace” and “the major urban political institution in the late nineteenth century” (Erie 1990, p. 2). In Chicago, New York City, Newark, and other large American cities, votes were exchanged for “cash, food, alcohol, health care, poverty relief, and myriad other benefits” (Stokes et al. 2013, p. 200). The street price of the right to vote freely was low. Bensel explains that “[voters] handed in a party ticket in return for a shot of whiskey, a pair of boots, or a small amount of money” (Stokes et al. 2013, p. 227). In general, students of American political development have analyzed vote buying in detail, confirming both its early development and its generalized practice (Bensel 2004; Campbell 2005).<sup>3</sup>

However, vote buying currently seems to have declined considerably, for two competing reasons. Stokes et al. (2013, p. 201) show that industrialization drove up the electorate’s median income, making vote buying more expensive for party machines. However, Kitschelt and Wilkinson (2006, p. 320) disregard the industrialization hypothesis, focusing on the lower levels of “[s]tate involvement in the public sector.”

Regardless, clientelist linkages are now rare. Figure 1 suggests that 93.6% of US respondents have never received a clientelist offer from a political party. While only a very small percentage (4.8%) report receiving such an offer from a political party, we do not know whether survey respondents *would* sell their votes. This paper presents systematic evidence that they would. Consequently, the counterintuitive results presented in this paper make our descriptive efforts worth pursuing. Representing the United States as a “crucial case,” both the narrative and the findings follow a “least-likely” design approach. As Levy (2008, p. 12) explains, “[i]nferential leverage from a least likely case is enhanced if our theoretical priors for the leading alternative explanation make it a most likely case for that theory.” The vote-buying literature mostly considers developing countries and describes vote sellers as poor (Weitz-Shapiro 2014, p. 12), uneducated (González-Ocantos et al. 2014), and undemocratic (Carlin and Moseley 2015). Thus, previous literature implies that the willingness to sell votes in the United States should be low, making it a difficult case study on vote selling.

The evidence that this paper presents may be associated with a probable erosion of American democracy.<sup>4</sup> In a highly controversial pair of articles, Foa and Mounk (2016, p. 7) document a deep “crisis of democratic legitimacy [that] extends across a [...] wider set of indicators” in the United States. They find that 26% of millennials declare that it is “unimportant” in a democracy for people to “choose their leaders in free elections” (Foa and Mounk 2016, p. 10, and Foa and Mounk 2017). These findings raise many (unanswered) questions regarding the actual value that American electoral institutions hold for citizens, possibly undermining the legitimacy of

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<sup>3</sup> For the British case during the Victorian era see Kam (2017).

<sup>4</sup> Relatedly, see Levitsky and Ziblatt (2018).



the integrity of voting. Is voting unimportant enough to lead US citizens to sell their votes if offered the possibility?

The next section gives a historical account of vote buying and vote selling in the United States. The section also attempts to situate both within a historical context. It particularly shows how vote buying and vote selling transitioned from their status as an important institution in American elections to a scarcely practiced electoral method. The following section explains the experimental design. Immediately thereafter, the paper presents the statistical analyses of the experimental data. The last section offers some working hypotheses and possible lines for future research.

## **Vote selling and patronage in the United States: a brief historical account**

While all US states made bribery of voters illegal early in US history, these laws were purposely ignored. Well before the Gilded Age (1877–1896), several norms aimed to prohibit bribery, clientelism, and patronage. For instance, as early as 1725, the New Jersey legislature had already outlawed many electoral malpractices (Bensel 2004, p. 59). However, these restrictions were systematically bypassed. To circumvent property qualifications, for instance, office-seekers (and their supporters) commonly bought “freeholds for landless men in return for their vote” (Campbell 2005, p. 6), a practice known as “fagot voting.” Since it was a coercive bribe, after “the election, the land was simply returned to the original owner” (p. 6).

Weak institutions, poor bureaucracies, and bad-quality record-keeping helped to foster electoral malpractice.<sup>5</sup> First, most states did not have actual registration laws, making voter eligibility difficult to determine (Argersinger 1985, p. 672). Historians frequently report that judges at polling places had a hard time determining not only the age of the potential voter,<sup>6</sup> but also whether the prospective voter was a US citizen, especially in cases that involved newly naturalized immigrants with strong foreign accents (Bensel 2004, p. 20). Consequently, it was often up to the judge’s discretion whether to let prospective voters cast a ballot. Since judges were party appointees (Argersinger 1985, p. 672), their discretionary powers were systematically used to shape electoral outcomes.

Low literacy levels also helped to sustain vote selling in the United States. For example, in Kentucky and Missouri, the law required voters to verbally announce their choices at the polling places, instead of using party tickets (Bensel 2004, p. 54). Of course, the *viva voce* method was convenient for party workers who usually swarmed around the polling places. However, the ticket system eventually supplanted this method.

<sup>5</sup> The U.S. Bureau of the Census did not exist. Consequently, it was relatively easy to invent names, “repeat,” or use any other subterfuge to “stuff the ballot box.” In fact, “a St. Louis politician admitted registry fraud but argued that there was no proof that the names he copied into the registry were of real people and, therefore, no crime had been committed” (Argersinger 1985, p. 680).

<sup>6</sup> Judges used as a rough proxy whether the prospective voter had the ability to grow a beard (Bensel 2004, p. 20).



The “party strip” or “unofficial” ballot system also permitted all sorts of fraudulent election practices. The parties themselves produced party tickets. Since tickets varied by size and color, it made “the voter’s choice of party a public act and rendered voters susceptible to various forms of intimidation and influence while facilitating vote buying” (Argersinger 1985, p. 672). Similarly, Rusk (1970, p. 1221) explains that distinctive ticket colors and shapes “assured instant recognition of the ballot by the voters [and] party workers.” Reynolds and McCormick (1986, p. 836) present similar evidence. Consequently, party workers hired to monitor the voting window (Argersinger 1985, p. 672) had ample opportunity to punish or reward voters accordingly.

The ticket system required very strong party machines, which, in turn, required considerable economic resources to make the system work. However, political machines were oiled not only with money. On the one hand, many “ticket peddlers” (Argersinger 1985, p. 672) were volunteers (Bensel 2004, p. 17), saving some of the costs needed to maintain the machine. Most of these volunteers “enjoyed the patronage of elected party officials by holding government jobs, drawing public pensions, servicing government contracts, or enjoying special licensing privileges” (Bensel 2004, p. 17). On the other hand, political appointees “from janitor to secretary of state” and some corporations donated annually part of their salaries and revenues (Reynolds 1980, p. 197). Thus, parties amassed huge amounts of money.

With all these resources flooding the polls on election day, voting was truly an interesting spectacle. On that day, party agents would offer voters plenty of liquor as an incentive to vote the party ticket. Hence, “the street or square outside the voting window frequently became a kind of alcoholic festival in which many men were clearly and spectacularly drunk [to the point that] some could not remember whether or not they had voted” (Bensel 2004, p. 20). Even before the Gilded Age, American elections were engineered according to these “principles.” When running for the Virginia House, a young George Washington “spent nearly 40 pounds—a considerable sum for the day—on gallons of rum, wine, brandy, and beer; all used to win over the votes of his neighbors” (Campbell 2005, p. 5).<sup>7</sup>

The Australian ballot system significantly reduced the frequency of most of this malpractice (Rusk 1970, p. 1221). However, as vote selling and vote buying were so embedded in what was considered normal, the immediate effect of the Australian system was to reduce turnout (Reynolds and McCormick 1986, p. 851).

Today, the modus operandi of clientelism has changed, and both the frequency of vote buying/selling and the importance of party machines have declined. Scholars have pointed out that “party machines are a thing of the past” (Stokes et al. 2013, p. 230). However, some contemporary accounts remain of vote buying and selling in American elections. For instance, Campbell (2005, pp. 243–244) explains how a Democratic leader in Logan County, West Virginia, accepted \$35,000 in cash to support Senator Kennedy. As the Democratic leader explained, “this money was for one purpose: ‘We bought votes with it [...] that’s the way real politics works.’ ” Other examples are the famous primary election in March 1972 in Chicago (p. 262)

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<sup>7</sup> \$1250 in 2017 US dollars. Conversion based on Williamson (2018).



and the elections in the coal-rich Appalachian Mountains during the 1980s (p. 275). Similarly, nonacademic sources find that during the 2010 elections, “selling votes [was a] common type of election fraud” (Fahrenthold 2012). Others find that “[v]ote-buying is extremely common in *developed* [...] countries” (Leight et al. 2016, p. 1). If vote buying is “a thing of the past,” why do we still see it? How common is vote selling? The next two sections attempt to quantify—in an unbiased way—the willingness to sell votes among a representative sample of US voters.

## Experimental design

The study of individual preferences depends on truthful answers. However, under certain circumstances, individuals might not want to answer truthfully, due to social pressure. For instance, to avoid having the interviewer judge them, individuals might not want to reveal having done something illegal, such as selling one’s vote. Failing to consider this systematic source of bias will pose threats to causal inference.

Since list experiments administer two lists of items (one to the control group, one to the treated group), list experiments are well suited to eliciting truthful answers (Blair 2015). Both lists look identical (e.g., each containing the same three items); however, the treatment list traditionally includes a fourth item, the sensitive item related to some socially condemned behavior. Respondents are asked how many items on the list they would endorse, not which ones. For instance, if an experimental subject answers “2,” the interviewer will not know whether that number includes the sensitive item. Consequently, if the survey respondent wants to endorse the sensitive item, the answer will be “masked” by the other items in the list. This concealment makes this technique suitable for studying socially condemned behaviors, such as vote buying (Corstange 2008; González-Ocantos et al. 2012; Corstange 2012; Blair and Imai 2012), drug use (Druckman et al. 2015), sexual preferences (LaBrie and Earleywine 2000), and attitudes toward race (Kuklinski et al. 1997; Redlawsk et al. 2010).

Given that both lists are assigned randomly, the mean number of nonsensitive activities that respondents endorse should be equal across the two lists. However, if there are any differences in means between the two groups, the differences should be attributed only to the presence of the sensitive item.

Blair and Imai (2012) and Imai et al. (2015) provide a statistical framework to analyze list data efficiently.<sup>8</sup> They formalize two assumptions, namely, that there are (1) “no design effects” (i.e., the inclusion of a sensitive item has no effect on respondents’ answers to control items), and (2) “no liars” (i.e., respondents give truthful answers for the sensitive item). When the two assumptions hold and the item counts for types  $y = 0$  and  $4$  are fully observed,<sup>9</sup> experimental subjects with

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<sup>8</sup> While list experiments are common, researchers unfortunately “[utilize] only a difference in means estimator, and [do] not provide a measure of the sensitive item for each respondent” (Glynn 2013, p. 159).

<sup>9</sup> For a hypothetical treatment list of four items.



item-count types  $y = 1, 2$ , and  $3$  can be inferred using multivariate techniques that allow for inferring who answered “yes” to the sensitive item. In addition, the statistical analyses permit studying the relationship between preferences over the sensitive item (i.e., vote selling) and an individual’s characteristics, such as income and party identification. Also, the design includes a “direct” question on the sensitive item, also making possible an estimation of the amount of social-desirability bias.

Collected in 2016, the data ( $N = 1479$ ) are representative at the national level.<sup>10</sup> Figure 6 shows the geographical distribution of survey respondents, grouped by party identification. The experiment was framed as a study about crime in the United States, not as a study about vote selling.<sup>11</sup> While pretesting the study, it was decided that the experiment needed to mask a very serious felony (selling one’s vote) among other equally serious felonies (such as stealing) and other less serious crimes (such as speeding or downloading music illegally from the Internet). Otherwise, the vote-selling item would have stood out among the other items, making it seem totally negative and undoable, and/or making the true purpose of the study obvious.

Before splitting the subject pool into the subjects’ respective experimental conditions, participants were asked to read an excerpt describing four illegal activities (including vote selling).<sup>12</sup> All were formatted as news pieces. The idea was to explain “vote selling” to “newsreaders.”

As Fig. 2 suggests, to prevent possible priming effects,<sup>13</sup> the order in which experimental subjects answered the direct question<sup>14</sup> and the list experiment were randomly assigned. To be sure, all subjects answered both the direct question and the list experiment. To further prevent the possibility of biased answers when asking the direct question to individuals in the treated group, the direct question stated that the hypothetical possibility of doing one of the illegal things mentioned previously in the excerpt would be randomly assigned. However, all participants were directly asked whether they would be interested in selling their vote. Direct answers were then used to estimate the proportion of “liars.”

As a follow-up, subjects answering “yes” to the direct question answered a pricing test that asked them to indirectly put a price on their votes. Following standard practice in marketing research, participants slid a handle indicating which price was considered “too cheap” for one’s vote. The slide ranged from \$0 to \$1000, in one-dollar increments. The idea was to capture the respondent’s willingness to sell. The pricing test particularly measures the lowest bound at which the participant would perceive the least economic benefit that was still enough to make selling his/her vote interesting. Moving forward, the list experiment contemplated one control and two

<sup>10</sup> Research Now SSI collected the data between March 2 and March 6. Survey respondents belong to the online panel owned and administered by SSI. Notice of IRB Exemption Protocol #E16-292 is kept on file at the Office of Research and Regulatory Affairs of Rutgers University.

<sup>11</sup> To isolate the risks and costs associated with engaging in any illegal activity, the next phrase was included: “assuming you would not go to jail.”

<sup>12</sup> See “Appendix” for wording.

<sup>13</sup> Blair and Imai (2012, p. 54) explain that asking the direct question to individuals in the treated group might bias the results.

<sup>14</sup> See “Appendix” for wording.



possible treatments, each with different vote-selling prices. Since pricing a vote is difficult and based on several pretests, an arbitrarily low (\$100) or an arbitrarily high (\$500) price appeared. Participants randomly assigned to the treatment condition answered only one of these two treatments. More than hard-pricing tests, these two treatments account for possible different elasticities that might have interacted with individual socioeconomic backgrounds, mainly defined by income.<sup>15</sup>

Subjects randomly assigned to the control condition answered the following question:

Now, you will have to type HOW MANY, if any, of the following illegal activities you might engage in, assuming you would not go to jail.

(1) steal an iPod from a large department store  
 (2) speed on the highway because you're late for work/school  
 (3) download your favorite music from the internet illegally

Type in HOW MANY (NOT WHICH), if any, of these things you would do.

In turn, subjects randomly assigned to the treatment condition answered one of the following two treatments. Subjects assigned to the “low” price condition read the same vignette, but the next line was added in the third place: (3) sell your vote to a candidate for \$100. Those assigned to the “high” price condition read the following line: (3) sell your vote to a candidate for \$500.<sup>16</sup>

Figure 3 shows the distinct frequencies of participants declaring how many (if any) illegal things they would do. Notice that the figure shows the total number of items, not which ones. For instance, a frequency of “3” does not mean the frequency of the third item, but describes the total number of individuals answering that they would do three of the illegal activities described in the vignette.<sup>17</sup> The order of the items was not randomized, to avoid violating the stable unit treatment value assumption (SUTVA).<sup>18</sup>

Showing that the probability of being assigned to any condition is not associated with individual covariates is important. Table 1 shows a multinomial logistic model. The dependent variable is the treatment condition (high treatment, low treatment, and control). The independent variables are observable characteristics captured

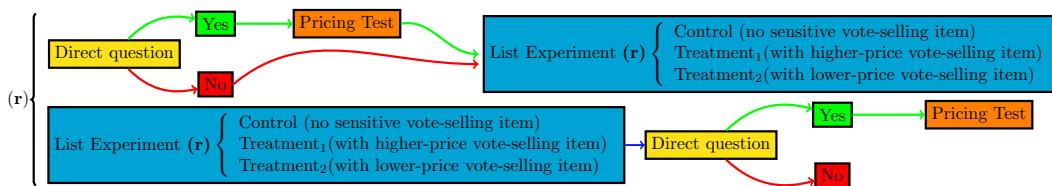
<sup>15</sup> Holland and Palmer-Rubin (2015, p. 1189) explain that “the poor are thought to be more susceptible to vote buying.”

<sup>16</sup> Since one of the two sentences was added, item (3) download your favorite music from the Internet illegally was moved to the fourth place.

<sup>17</sup> The experimental design passes the standard tests for design effects (floor and ceiling effects). See Table 3.

<sup>18</sup> Morton and Williams (2010, p. 98) explain that the treatment should be invariant or “stable.”





**Fig. 2** Experimental flow of the list design. Note this figure shows the flow of the list experiment. Notice that (1) the order in which experimental subjects answered both the direct question and the list experiment was randomized; (2) there are two treatments, one with a selling price of \$100 (“low”) and one with a selling price of \$500 (“high”)

by a short questionnaire included in the study. Four variables were used: income, education, party identification, and political ideology. These were the same set of variables used when estimating likely vote sellers (below). Conveniently, the base category in the multinomial logistic regression is the control condition. The coefficients in the table are all zeros (and statistically nonsignificant). Consequently, these results show no observable differences between the “high” treatment condition and the control group. The same applies to the “low” condition.<sup>19</sup>

The paper acknowledges that considerable friction and transaction costs in the real world might mean that creating a market for vote selling would not be easy. For instance, party identification might increase (or decrease) the cost of selling one’s vote, presumably preventing (or fostering) the transaction. If the party of both sellers and buyers should match, fostering vote selling might represent a win–win situation for both. This experimental design does not consider blocking on party identification, as that might have increased considerably the number of cells.

## Statistical analyses

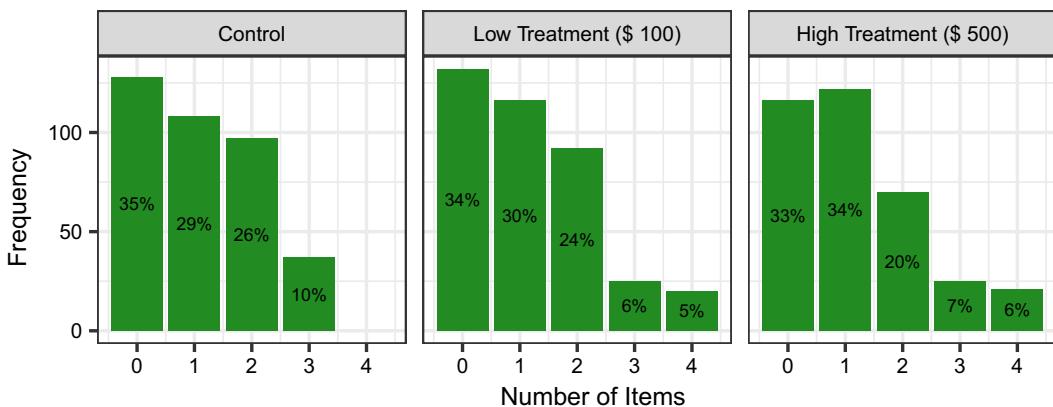
### Would US citizens sell their vote?

Table 2 shows a simple difference-in-means analysis between each treated group and the control group. On average, the control group would do 1.116 things on the list. Subjects treated under the “low” condition (\$100) would do 1.182 things on the list, while subjects in the “high” condition (\$500) would do 1.189 things.

Three important points characterize this bivariate analysis. First, the mean differences between treated groups (i.e., “low” and “high” treatments) are statistically zero, implying that neither treatment should introduce design bias into the experiment. Second, while treated subjects do have slightly higher means when compared to the control group (indicating some vote-selling propensity), these differences are not statistically significant. Third, while not statistically significant,  $0.066 \times 100 = 6.6\%$  of subjects would sell their vote under the “low”

<sup>19</sup> I thank the anonymous reviewer at *Acta Politica* for this suggestion.





**Fig. 3** Frequency and percentages of subjects declaring how many (if any) illegal things they would do. Note notice that the X-axis denotes the number of items, not which ones. Percentages show proportions per condition

**Table 1** Covariate balance: multinomial logistic regression for both treatment conditions

	High	Low
Ideology	0.019 (0.068)	-0.031 (0.067)
Party Id.	-0.125 (0.083)	0.022 (0.080)
Income	-0.021 (0.022)	0.006 (0.021)
Education	0.049 (0.048)	-0.008 (0.047)
AIC	2449.471	2449.471
BIC	2499.583	2499.583
Log likelihood	-1214.736	-1214.736

The table shows a multinomial logistic regression. The dependent variable is the treatment condition (high, low, control). In both models, the base category is the control condition. The independent variables are observable characteristics captured by a short questionnaire included in the study. This set of covariates is the same as the one used in the statistical analyses of the list experiment. Since all estimated coefficients are close to zero and statistically nonsignificant, we can safely assume that the randomization mechanism worked as expected, i.e., there are no observable differences across the different treatment conditions. Reference category is control condition. Intercept was excluded from the table.  $N = 1479$

\*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

condition, while  $0.073 \times 100 = 7.3\%$  of subjects would sell their vote under the “high” condition. While these estimations score substantially under what is found through the multivariate approach used in this study, as shown below, they are also highly inefficient.

Bivariate calculations are statistically inefficient; hence, the data should be analyzed using multivariate techniques instead. Following the advice of Blair and Imai



**Table 2** Differences in means between Treatments (high and low) and the Control group

Condition	Mean	Difference with control condition	Confidence intervals	<i>t</i>	df	<i>p</i> value
Low (\$100)	1.182	1.182–1.116 = 6.6%	[−9%, 22%]	0.846	748	0.398
High (\$500)	1.189	1.189–1.116 = 7.3%	[−8%, 23%]	0.913	700	0.361

The table shows two-tailed *t* tests between each experimental treated unit (“low” and “high” conditions) and the control group. The table shows that  $0.066 \times 100 = 6.6\%$  of subjects would sell their vote under the “low” condition, while  $0.073 \times 100 = 7.3\%$  of subjects would sell their vote under the “high” condition. Also, 95% confidence intervals are shown. It is evident that they are quite wide and not statistically significant

(2012) and Blair (2015), we took a statistical multivariate approach.<sup>20</sup> Exploiting the “low” and “high” treatments, we estimated two identical statistical models. In both models, the outcome variable is the item count of things that subjects would do. The idea is to estimate what we cannot observe (i.e., vote selling), using information that we do observe (i.e., socioeconomic and political variables captured by the questionnaire). The model considers the most common covariates studied in the vote-buying literature (Calvo and Murillo 2004; Stokes 2005; Kitschelt and Wilkinson 2006; Nazareno et al. 2008; Weitz-Shapiro 2012; González-Ocantos et al. 2014; Oliveros 2016; Bahamonde 2018)—that is, income, education, party identification, and political ideology.

Leveraging this multivariate approach makes estimating the proportion of hypothetical vote sellers possible. For both the “low” and “high” treatments, Fig. 4 shows the proportions of declared vote sellers (“Direct Question”), predicted vote sellers (“List Experiment”), and the difference between the two (“Social Desirability”).<sup>21</sup> Substantively, the figure suggests that after combining the estimates of the “low” and “high” treatments, approximately 25% of the nationally representative sample would be willing to sell their vote.<sup>22</sup> While a considerable proportion answered the direct question affirmatively (18%),<sup>23</sup> the analyses still suggest that survey respondents systematically underreported their true answers—that is, approximately 8% of the nationally representative sample would have lied.<sup>24</sup>

The difference-in-means approach in Table 2 suggests that between 6.6 and 7.3% would be willing to sell their votes. However, the multivariate approach in Fig. 4 suggests that 25% would be willing to do so. While at first these differences might seem huge, they are not. As the literature suggests, multivariate approaches to analyzing list experiment data are far more efficient (Blair and Imai 2012; Blair 2015).

<sup>20</sup> The R package `list` was used (Blair 2015). The estimation method used was the “ml” and the maximum number of iterations was 200,000. The remaining arguments of the package were left at their default values.

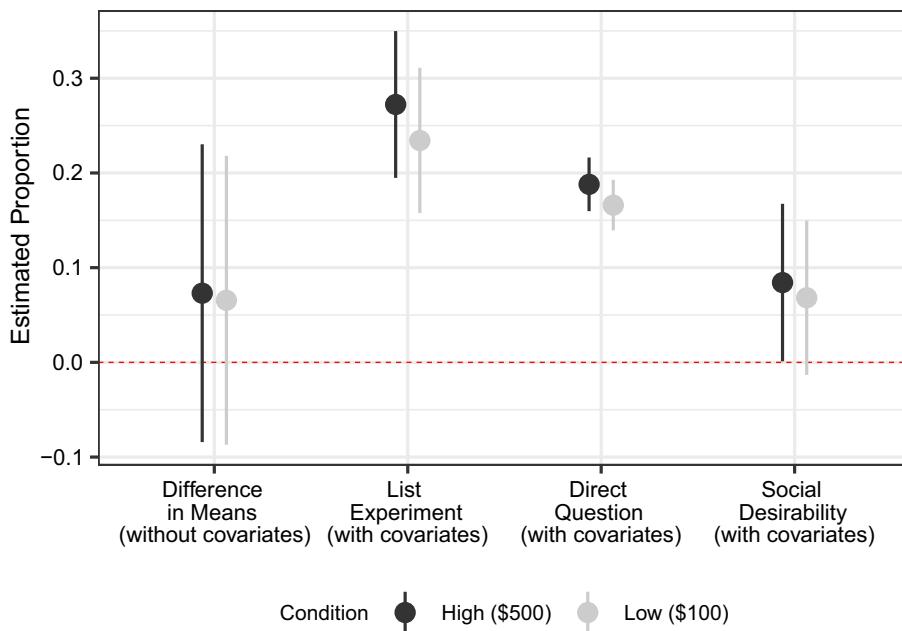
<sup>21</sup> Since the estimated quantities do not vary across the different treatments (“low” and “high”), it is reasonable to think that there are no specific concerns associated with the (arbitrarily) chosen prices.

<sup>22</sup> This number was calculated averaging over the “high” (27%) and “low” (23%) estimates.

<sup>23</sup> This number was calculated averaging over the “high” (19%) and “low” (17%) estimates.

<sup>24</sup> This number was calculated averaging over the “high” (8%) and “low” (7%) estimates.





**Fig. 4** List experiment data: declared and predicted vote sellers. Note figure summarizes Table 2 by showing the simple difference in means (without covariates). It also shows the proportion of declared (“Direct Question”) and predicted (“List Experiment”) hypothetical vote sellers, and the difference (“Social Desirability”). The three sets of main estimates were obtained via a multivariate procedure (including covariates). Combining both “low” and “high” treatments, 25% would be willing to sell their votes. And of those who answered affirmatively when asked directly (18%) an estimated additional 8% lied about it. “Liars” answer the direct question negatively, but they are likely sellers. The figure shows 95% confidence intervals. There are two arbitrarily “low” and “high” vote-selling prices. The reason for having both was to control for possible price elasticities. The figure suggests some small differences that are not statistically significant. Consequently, these arbitrary pricing decisions do not threaten the experimental design

Within the framework of regression analysis, the difference-in-means approach is just a bivariate lineal model.<sup>25</sup> Instead, the multivariate approach is also a lineal model, but it incorporates covariates. We claim that due to the multivariate’s greater efficiency than that of the difference-in-means approach, the former is a far better approach than the latter. One way of showing the efficiency of a statistical model is by examining its standard errors (King 1986, p. 676): the worse the data’s fit is, the greater the standard errors are, the more imprecise the model is, and the wider are the confidence intervals. Considering the statistical uncertainty of both methods (depicted in Fig. 4), it is easy to see that the multivariate approach is far more efficient than the difference-in-means approach. Since it uses more information when fitting the data (the covariates), it gives more precise estimates (narrower confidence intervals). Furthermore, going beyond efficiency issues, the estimates of both methods are statistically indistinguishable. Since the confidence intervals of

<sup>25</sup> With just a constant 1 on the right-hand side of the equation.



both approaches overlap, it is not possible to say that the estimated 7.3% and 6.6% are “smaller” than the estimated 25%.<sup>26</sup>

Moving forward, the estimated proportion of vote sellers—“List Experiment” in Fig. 4—is calculated using information from subjects with fully observable preferences, i.e., subjects with an item count of 0 or 4. We know that the former would not do anything, and the latter would do all things mentioned in the list (including the sensitive item). Using the identified covariates (income, education, party identification, and political ideology), a model is fitted to predict all subjects with 0’s and 4’s on the left-hand side. Using this information makes obtaining individual-level vote-selling predictions possible, i.e., participants who would do 1, 2, or 3 things on the list (shown in Fig. 7 in the “[Appendix](#)”). Then, these individual-level predictions are compared with the direct question that all experimental subjects answered. If a subject is a predicted vote seller but answers the direct question negatively, it is inferred that due to concerns of social desirability, she might have chosen to lie.

### **What is the price for which US citizens would sell their vote?**

Participants were also asked to declare which price they considered “too cheap” for their vote. The intention was to capture the respondent’s willingness to sell. The test measures the lowest bound at which participants would perceive the least possible economic benefit but enough to make them sell. Since it is the lowest threshold, the understanding is that a higher price will still be economically attractive.

The results indicate that the average survey respondent would sell his/her vote for \$418 ( $N = 189$ ), a very expensive price. These results are not unrealistic. While the selling price is very high, it matches what others have found. Bahamonde (2018, p. 52) finds that clientelist political parties in Brazil do target affluent voters at considerably higher prices. Part of the argument is that higher levels of economic development not only raise personal income, but also shift the broker’s vote-buying capacity upward.<sup>27</sup> That is, higher income does not necessarily stop vote buying; it just makes it more expensive.<sup>28</sup>

Stokes et al. (2013) analyze the (im)possibility of expensive vote selling. Industrialization has driven up the median income of the electorate, increasing the selling price while turning vote buying into an increasingly expensive strategy for winning elections. Thus, from the demand-side (parties), vote buying is no longer an efficient mass strategy for party machines. Evidently, with the selling price so expensive, political parties cannot catch up with the supply-side, making vote buying in the United States a rare event (as Fig. 1 suggests). This situation has forced party machines to turn to other, less prohibitively costly alternatives. Thus, these results suggest that from the supply-side (i.e., voters), the vote is still up for sale, only for a very high price that party machines cannot afford.

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<sup>26</sup> I thank the two anonymous reviewers of *Acta Politica* for stimulating this discussion.

<sup>27</sup> Similarly, see Abramo and Speck (2001, p. 14). For the Philippine case, see Schaffer (2004).

<sup>28</sup> In fact, there is some anecdotal evidence suggesting that a broker purchased one man’s vote for \$800 during the 2010 elections in eastern Kentucky (Shawn 2012, p. 6).



Since the pricing test is based on the direct question, its results require a word of caution. The list experiment does suggest that some respondents lied when directly asked if they would sell their vote. Consequently, we should expect the pricing test to be biased to some degree. Also, only a small proportion of respondents answered the direct question affirmatively. In addition, prices are the product of supply-and-demand dynamics. In this context, prices result from the interaction between parties (buyers) and voters (sellers). This research design observes only the sellers' side. Hence, we limit our inferences even more by thinking about these results as only suggestive of some willingness to sell. Hence, more than acting as definitive and final pricing tests, these findings do seem to suggest that the vote-selling price is high enough to deter political parties from engaging in vote selling. Finally, future research should design and conduct more complex studies where the design incorporates supply-and-demand dynamics.

### **Who are the most-likely vote sellers?**

The proportion of likely vote sellers was estimated using a multivariate approach. The variables used were the most common explanatory factors studied in the clientelism literature. Ultimately, this procedure allows for profiling participants into likely vote sellers. Figure 5 shows estimated vote-selling probabilities at different levels of all variables used in the multivariate approach.

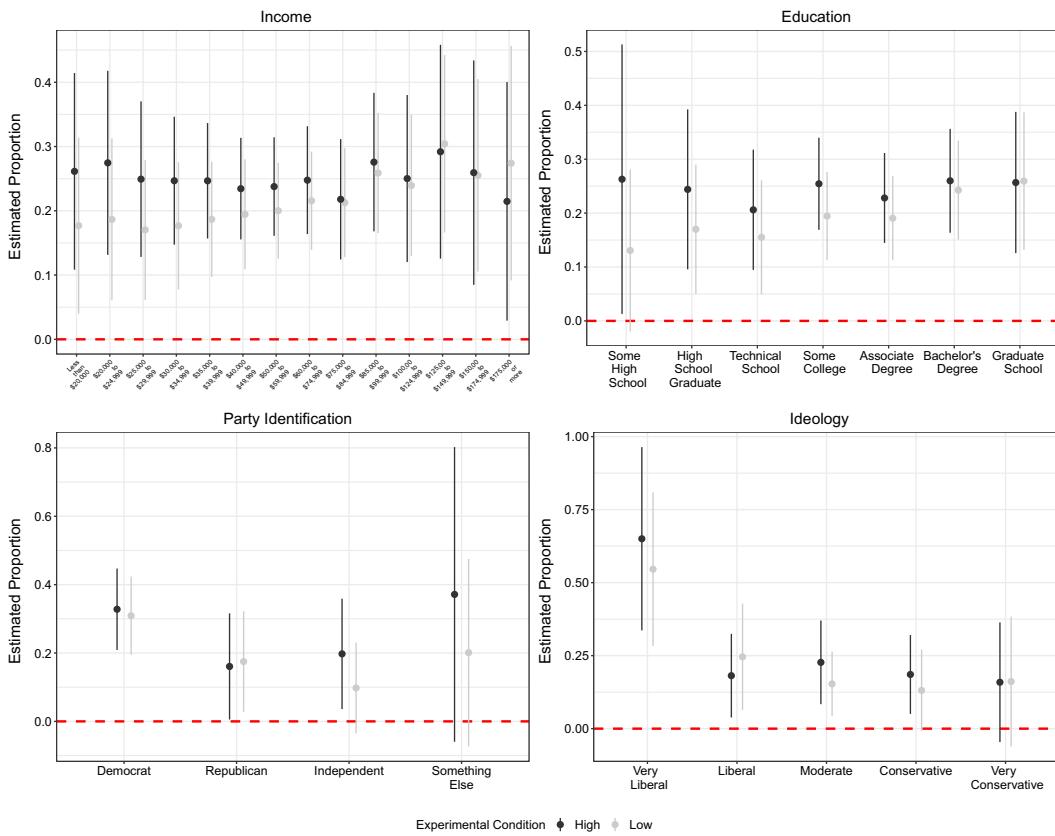
The analyses suggest that Democrats and Liberals are more likely to sell. These findings are in line with research that studies the different constitutive values of Liberals and Conservatives. Political psychologists have found that compared with Conservatives, Liberals construct their moral systems primarily upon narrower psychological foundations. Particularly, Liberals consider less important both the authority/respect and the purity/sanctity dyads (Graham et al. 2009, p. 1029). This might lead Liberals to engage more frequently in behaviors that might be considered “wrong,” such as vote selling. In fact, Gray et al. (2014, p. 7) explain that Conservatives “see impure violations as relatively more wrong.”

Unlike the conventional wisdom (Kitschelt 2000; Calvo and Murillo 2004; Weitz-Shapiro 2012; Carlin et al. 2015), Fig. 5 shows that education and income levels do not make vote selling more likely. Poverty has long been associated with vote selling. Brusco et al. (2004), Stokes et al. (2013), and Nazareno et al. (2008) explain that since the poor derive more utility from immediate transfers relative to returns associated with future (and uncertain) policy packages, clientelist political parties only target the poor. For instance, Weitz-Shapiro (2014, p. 12) explains that “[a]lmost *universally*, scholars of clientelism treat and analyze [this] practice as an exchange between politicians and their poor clients.”<sup>29</sup> The evidence presented in this paper aligns with that of others who have recently questioned the importance of this canonical predictor. Szwarcberg (2013) “challenges the assumption [that brokers] will always distribute goods to low-income voters in exchange for electoral

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<sup>29</sup> My emphasis.





**Fig. 5** List experiment: covariates used to estimate likely vote sellers. Note these variables were used in the multivariate statistical model to estimate individual-level probabilities of vote selling. The figure shows the predicted probabilities and their corresponding 95% confidence intervals for income, education, party identification, and ideology. Since the vote-selling prices were set arbitrarily, the reason for two experimental conditions (“low” and “high”) was to control for possible price elasticities. While there are some perceptible changes, they are not statistically significant. Consequently, these arbitrary decisions do not threaten the identification strategy

support,” while González-Ocantos et al. (2012) and Holland and Palmer-Rubin (2015) find that income had little or no effect on vote buying.<sup>30</sup> Notably, Bahamonde (2018) explains that brokers target individuals when they are identifiable and groups when brokers need to rely on the spillover effects of clientelism. Both mechanisms occur regardless of individual levels of income.

There do seem to be important substantive differences between the “low” and “high” vote-selling treatments. That is, factors that heavily determine economic status (income and education) seem to be more elastic to marginal increments in the buying price. As Fig. 5 shows, low-income and less-educated individuals are willing to sell their votes in a similar proportion to wealthier and more-educated respondents. However, poorer and uneducated individuals are more willing to sell their votes, conditional on higher prices. This might indicate that for them, behaving

<sup>30</sup> Relatedly, González-Ocantos et al. (2014, p. 205) and Corstange (2012, p. 494) also find very weak results for education in Peru and Nicaragua, and in Lebanon, respectively.



illegally is worthwhile but only when the payoff is “large enough.” These results are in line with those of experimental and applied economists who argue that “risk aversion decreases as one rises above the poverty level and decreases significantly for the very wealthy” (Riley and Chow 1992, p. 32). In other words, less-educated and low-income individuals, who are more fragile and precarious, tend to avoid risks and, hence, illegal activities. On the contrary, higher-income and more-educated individuals seem unaffected by the different stimuli and sell their vote in the same proportion, regardless of the price. For instance, highly educated individuals (graduate school level) sell their vote in the same proportion, under both the “low” (26%) and “high” (26%) conditions.

## General discussion

Two conflicting pictures emerge. On the one hand, leaving aside concerns about social-desirability bias, we “know”—using nonexperimental data—that most people have never been offered the possibility to sell their vote (as per Fig. 1). On the other hand, the results presented here strongly suggest that they *would*. While buyers (e.g., parties) are not buying, a large proportion of latent vote sellers is willing to sell their vote.

While vote buying/selling in the United States was commonplace during the nineteenth century, higher median incomes have increased the cost of this strategy as a feasible tool to win elections, in turn, making vote buying rare in the United States. The paper confirms this hypothesis by suggesting that an important estimated proportion of US voters—25%—is very much willing to sell their vote, but for an estimated very expensive price—\$418. Overall, these results are striking, and the author is not aware of any other experimental design in which subjects in an industrialized democracy are asked whether they would sell their votes, and, moreover, which produces positive results. The paper began by establishing the tension between supply and demand sides within a clientelist relationship and noting that qualitative research usually focuses on vote selling, while quantitative studies usually focuses on vote buying. Furthermore, most of the literature concentrates its efforts on studying developing countries, mostly paying attention to realized clientelist transactions. As discussed, both aspects pose threats of selection bias to our inferences. This paper tries to fill these gaps by studying hypothetical vote selling via an experimental design implemented in an advanced democracy.

While the paper is rather descriptive, the author believes that the exercise was worth pursuing. The experimental evidence of a large critical mass willing to sell their votes in a developed country is novel. It is hoped that the paper sets the stage for future research and encourages other scholars to field the experimental design presented here in a comparative setting, to include both developed and developing countries. Future research should also consider different values placed on different offices.<sup>31</sup> It is reasonable to think that presidential, Senate, House, state-legislature,

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<sup>31</sup> I owe this point to Christopher Chambers-Ju.



mayoral, and city-council elections produce different incentives and constraints regarding buying and selling votes. Also, future research should consider blocking party identification—for example, designing a more complex experiment, in which not only the price varies but also the vote-selling treatment is partisan.

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## Appendix

### Experimental manipulations and vignettes

Distractor paragraph. The next paragraph was used to distract subjects from the main purpose of the study, and also to define vote selling.

Washington, D.C.- A department store downtown had a robbery incident last week, reporting several missing iPods from their inventory. Authorities also inform that a group of local residents are trying to ``sell'' their votes to political candidates ahead of a local election for city council. Residents approached some of the candidates running for office and offered to vote for that candidate in return for monetary compensation. In a different subject matter, the local police station released a report on driving habits and behaviors in the Capitol district last week. Finally, cyber-crime has become an increasingly serious issue in the area in the past few years.

**Direct Question.** All subjects read the next paragraph, and then *all* answered the direct question:

Now you will be entered into a random lottery for the opportunity to do ONE of the illegal things you just read before. This means that you might be randomly offered to hypothetically do ANY of the activities mentioned before.



After a random assignment, you have been selected for the opportunity to hypothetically sell your vote. This means that you will have the hypothetical opportunity to accept money from a candidate for your vote. Would you be willing to accept the offer, assuming you would not go to jail? By selecting ``Yes,'' you could earn up to \$1,000.

### Testing for design effects

See Table 3.

**Table 3** Test for list experiment design effects

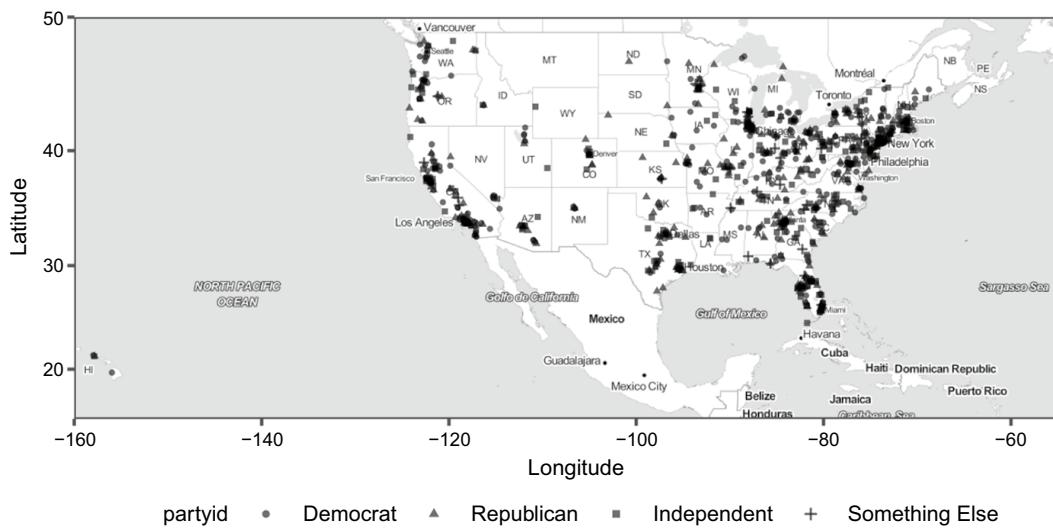
Respondent types	Low condition		High condition	
	Estimate	Standard error	Estimate	Standard error
(y = 0, t = 1)	0.0031	0.0346	0.0183	0.0351
(y = 1, t = 1)	-0.0063	0.0349	-0.0345	0.0353
(y = 2, t = 1)	0.0169	0.0226	0.0299	0.0237
(y = 3, t = 1)	0.0519	0.0113	0.0593	0.0126
(y = 0, t = 0)	0.3429	0.0242	0.3277	0.0249
(y = 1, t = 0)	0.2982	0.0347	0.3264	0.0351
(y = 2, t = 0)	0.2453	0.0299	0.2322	0.0307
(y = 3, t = 0)	0.0481	0.0193	0.0407	0.02

Since the Bonferroni-corrected  $p$  values of the *low* (0.8567) and *high* (0.3298) conditions are above the specified  $\alpha$  (0.05), I fail to reject the null of no design effects

### Geographical distribution of survey respondents

See Fig. 6.

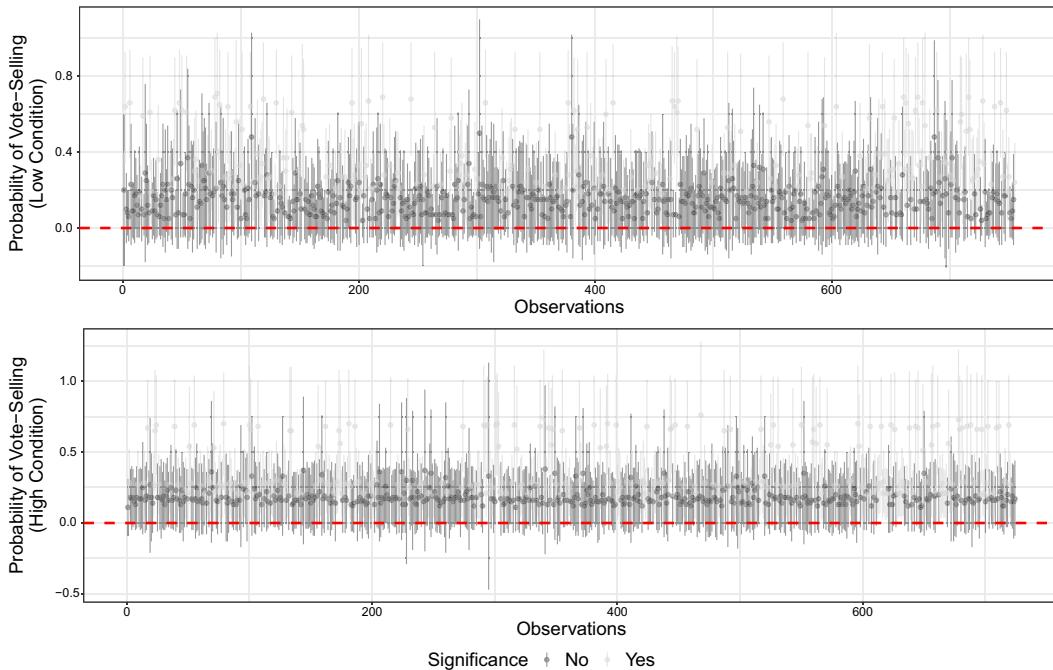




**Fig. 6** Geographical distribution of survey respondents by party identification

### Individual predictions

The vertical axis of Fig. 7 shows the estimated probabilities of the entire experimental sample, sorted across the horizontal axis. The figure is relevant as it openly shows the amount of uncertainty of the statistical estimates. Ultimately, these individual-specific predictions will be used to profile likely vote sellers.



**Fig. 7** Individual estimated probabilities of vote selling. Note figure shows the individual probabilities of vote selling ( $N = 1479$ ) under the "low" and "high" conditions. After fitting the model, and following the advice of Blair and Imai (2012) and Imai et al. (2015), individual probabilities of vote selling under the "low" and "high" conditions were estimated. The figure also shows 95% confidence intervals



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## Teaching Statement

**Teaching Philosophy.** As an instructor, my goal has always been to sow the seed of curiosity, because it is the first stepping stone of learning. One of the major challenges of teaching comparative politics is that it is a stream of conflicting theories, approaches, and methodologies. My belief is that this might be overwhelming for students. Hence, my teaching philosophy is to serve as a *guide* in the process of discovering what comparative politics, democracy, development, and political economy are.

At O'Higgins University I teach seminar courses in **comparative politics** and **comparative political economy**, as well as the methods sequence in the Economics program (both [OLS](#) and [MLE-causal inference](#)). After a good number of years teaching in the United States, I've decided to make use of my experience here at home. What I've discovered, is that no matter what the country is, the needs are the same: students need *proactive mentors* in their seek of knowledge.

In the spring of 2018, while I was at **Tulane University**, I taught [Introduction to Comparative Politics](#). It was a really enjoyable experience, for me and my students (check my [teaching evaluations](#)). I designed the syllabus not only thinking about how to retain the interest of political science / global studies majors, but also about how to captivate and motivate prospective students. And while I put heavy weight on participation, my experience teaching at Rutgers taught me how to create a classroom environment of intellectual curiosity and mutual respect. My number one rule is to approach all these big questions by presenting the material in such way that my students feel intrigued about it. I believe this to be the main ingredient to train individuals who can think critically and navigate the major debates in the field—not only from a theoretical perspective, but also from an applied point of view.

As a teaching assistant at **Rutgers University**, I was fortunate enough to teach in one of the most diverse schools in the country. As an engaging instructor, I took pedagogical advantage of this situation by bringing into the classroom many examples from different parts of the world. Teaching in such a diverse environment gave me extensive training in how to approach controversial issues, and also in how to present the material in an interesting way for *all* students, regardless of their different cultural and economic backgrounds. You can access my diversity statement [here](#).

I have not only taught at the undergraduate level, but I have also served as a **teaching assistant at the graduate level**. In the fall of 2015, I served as the TA of the *Introduction to Statistics* course taught by Professor Beth Leech. It was a great experience. For instance, I gave a talk on how to present statistical models in an appealing and intuitive way. I engaged my fellow graduate students in a way such that they could not only *see* how statistical results should look like, but also how to actually do it.

In the winter of 2015, I had the opportunity to **teach the Math Camp and Introduction to Computing** course that ran all day, for an entire week. The course was intended for first-year graduate students, and it

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covered all necessary elements to perform well in the methods sequence. In general, this is a complex subject matter to teach; it requires superb organizational and teaching skills. I decided then to adopt a “*no child left behind*” policy. This is very important to me, not only in this particular context, but in any class I have taught. Shy students with unanswered questions perceive no benefit if the instructor is *only* “engaging.” **I believe it is fundamental to create an atmosphere of constructive learning, and an environment of tolerance that fosters the notion that *we* (i.e., students and myself) are finding the possible answers *together*.** That is why I feel it is fundamental to reward all sorts of possible questions. It is by asking multiple questions that we can stimulate an environment that allows learning and curiosity. Almost every lecture I have ever given adapts to the students’ questions, creating an environment of discussion and “nutritive” debate. **Rephrasing and re-framing students’ questions allows me to accomplish these goals while still sticking to the syllabus.**

An important aspect of belonging to an active academic community is the opportunity to **mentor** students, both graduate and undergraduate. For this reason, **I always served as a graduate student mentor.** In doing so, I had the opportunity to help incoming graduate students with their transition to grad school. At the undergraduate level, I always provided advice to interested undergraduate students wanting to pursue a career and/or a PhD/MA in Political Science. *As an undergraduate, I still remember how important for me was to be mentored by faculty members.*

**Teaching Interests.** Going forward, I would like to teach courses in comparative politics, political economy of development, democracy, state formation, Latin American politics, and applied methods courses (statistical and experimental). However, I can be quite flexible and take care of the demands the department has. Please check my [research agenda](#) and see how my **teaching and research interests** match. Below I describe a potential list of courses:

- Substantive Courses:
  - Introduction to Comparative Politics ([UG syllabus](#) / G).
  - Political Regimes and Regime Change (UG/G).
  - Introduction to Political Economy ([UG syllabus](#))
  - Political Economy of Development (G [syllabus](#)).
  - Economic History and Political Economy (UG/G).
  - Introduction to Latin American Politics ([UG syllabus](#) / G [syllabus](#)).
- Methods courses:
  - Research Design / Epistemology in Political Science ([UG syllabus](#) / G).
  - Introduction to Quantitative Methods in Political Science ([UG syllabus](#) / G).
  - Maximum Likelihood Estimation for Generalized Linear Models and Causal Inference (G [syllabus](#)).
  - Experimental Methodology (UG/G).

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## Sample Student Evaluations and Teaching References.

Professor Dr. Ross Baker, Distinguished Professor - Rutgers University, has more details about my teaching skills. His letter can be accessed via the Interfolio system. Please [let me know](#) if you wish to read the letter. Also, you can always [send me an email](#) to receive the latest teaching evaluations. However, here I summarize some of my student's comments I have received during my three years of teaching assistant experience:

- “The TA is very responsive when spoken to and is quick to answer questions via email. The TA’s willingness to learn with us is also helpful in learning the material and allows us to have nice discussions in class.”
- “My TA showed he knew his subject material because he was able to answer hard and complicated questions efficiently despite it being obvious that English was not his first language.”
- “Hector showed me how to make connections with government terms. He made the big picture seem simpler for me.”
- “Over the break, I came to the conclusion that I want to major in political science. American Government was the first course I ever took related to political science, and I loved it.”
- “I am very grateful for your help and will definitely reach out to you to ask questions about Comparative Politics if that’s what I eventually plan on doing. I feel like I’m very new to this whole field of study - mainly because I haven’t been in the US for a very long time, and because of the way the government works so differently here than in Pakistan, where I’m from.”
- “The teaching assistant really helped me to think about all the “why” aspects of the material. Like for example, “Why is this important?” or “Why does this relate to the material?.””
- “The best TA in teaching the course material. Each recitation session is well compact with main concepts crucial for understanding the course material.”
- “As an international student who takes the course for requirement, the TA have greatly increase my interest in politics, increase my awareness of politics.”
- “Hector Bahamonde was very engaging and I learned a lot in recitation. I liked that he was always prepared with examples to relate what we learn in class to today’s world. He has a very cool perspective on politics.”
- “I think everything was perfect with the recitations.”
- “Easily the best TA I have had at Rutgers. He engaged the class, and presented the material in an interesting and extremely organized manner. I was nervous about taking this class because it is not one of my specialties, but after the first recitation I realized that I would learn a lot and Hector really changed my attitude towards taking the class.”
- “Hector encourages us to get involved during recitation. Normally I wouldn’t raise my hand as often, but he makes it easy to participate in class.”

More information, [syllabi](#), my [research](#), [teaching](#) and [diversity](#) statements, as well as other [papers](#) are available on my website: [www.HectorBahamonde.com](http://www.HectorBahamonde.com). Thank you for considering my application. I look forward to hearing from you.