Turnout, Political Preferences and Information:
Experimental Evidence from Perú

Gianmarco León

Universitat Pompeu Fabra
and Barcelona GSE

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Outline

1. Introduction
   - Motivation
   - Related Literature
2. Theoretical Model
3. Institutional Background
4. Experimental Design and the Data
   - Descriptive Statistics
5. Results
   - Basic Results
   - Testing the Model
   - Preference Agregation and Information Acquisition
6. Summary and Discussion

Motivation

- What motivate voters to participate in elections?
- Can governments implement incentive schemes to foster electoral participation?
- If so, what are the potential effects on the composition of the electorate and electoral outcomes?

Motivation

Voting is at the core of democracy. Yet, participation in elections remain an open question for most of the economics and political science literature

We need to understand not only why people vote, but also it is key to explain who votes, because it determines:

1. Who gets elected and what policies get enacted
2. To what extent elected officials are held accountable

Motivation

Electoral institutions that encourage citizens to vote are widely used around the world

Objective:

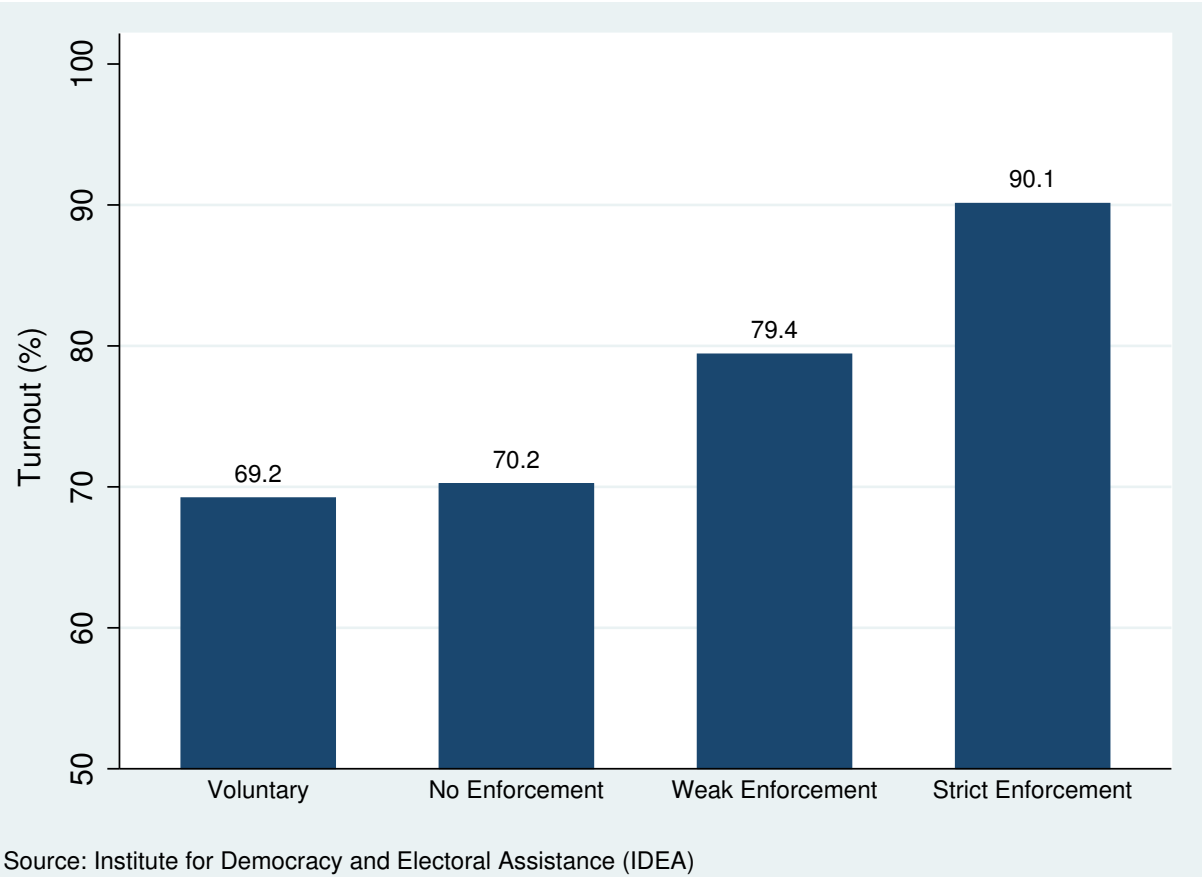
- **Democratization**: everyone's preferences are represented in the electoral outcome
- Induce voters to **get involved in the political process**

However,

- Voting, and **enforcing** these institutions is **costly**
- Induce less informed, or uninterested voters into the polls

Motivation

Figure : Turnout Around the World, by Mandatory Voting Status



Source: Institute for Democracy and Electoral Assistance (IDEA)

In this paper ...

I explore these issues using a combination of a natural and a field experiment that effectively generates random variation in the monetary incentives to vote. The experimental design allows me to address four specific questions:

1. How changes in the cost of (not) voting affect turnout?
2. What is the effect on the composition of the electorate?
3. How does a change in the electorate affect public choice?

Spoiler Slide

1. A lower cost of abstention reduces turnout. 10% decrease in the fine of abstention decreases the probability of voting by 2.2pps.
2. Consistent with the theoretical model, this reduction in turnout is driven by:
   - Voters with a **lower subjective value of voting/less interested in politics**
   - The **uninformed**
   - **Centrist** voters
3. Voters who abstain due to the reduction in the fine: (i) do not have different policy preferences, on average; (ii) do not acquire less political information; and (iii) are not more likely to *sell* their vote, but when they do, have to be paid a higher amount

Related Literature

- Voter behavior has been studied by both economists and political scientists for a long time, yet there isn't a canonical model for understanding turnout

  Downs (1957); Riker and Ordeshook (1968), Palfrey and Rosenthal (1985), Harsanyi (1980);

  Feddersen et al (2009), Coate and Conlin (2004), Merlo (2006), Martinelli (2007)
- The empirical evidence available has been centered on understanding what drives turnout:
  - Voter mobilization campaigns
    Gerber and Green 2000 and 2001; Gerber, Green and Larimer 2008; Arceneaux and Nickerson 2009; Gerber and Rogers 2009
  - Social Pressure
    Della Vigna et al 2013, Gerber et al. 2008
  - Information availability
    Gentzkow 2006, Gentzkow, Shapiro, and Sinkinson 2011; Snyder et al. 2010; Lasen 2005
  - Social Networks
    Fafchamps, et al 2012; Leon and Hoffman 2013; Chong et al 2014; Gine and Mansuri 2013;
  - Rain / Changes in Polling stations
    Knack 1994; Gomez, et al 2007; Brady and McNulty 2011

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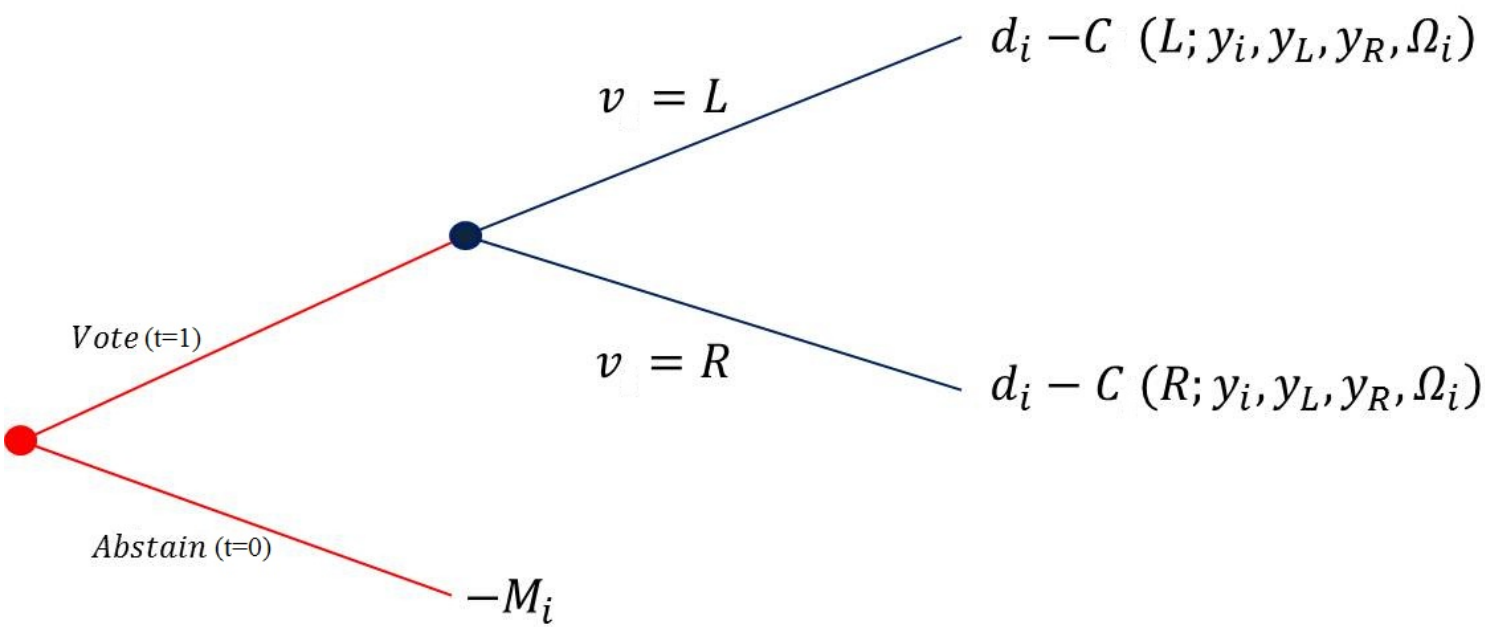
Model Set-up

Based on Degan (2006) and Degan and Merlo (2010)

- Each candidate has an ideological position in the space: $y = [-1, 1]$.
  - (y_L, y_R) is drawn from a joint probability distribution, $F(y_L, y_R | y_L < y_R)$
- Voters are heterogeneous:
  - Subjective benefit of voting: d_i
  - Cost of abstention: $M_i = M + \varepsilon_i$
  - Information about the candidate's positions: Ω_i
- Each voter knows her position in the ideological scale (y_i), and evaluates her vote for candidate y based on her distance from the candidate

Since voters have incomplete information, they can make a *(costly) voting mistake*

The Voter's Problem



$C(L; y_i, y_L, y_R\Omega_i)$ represents the utility loss of making a *"voting mistake"*

The Voter's Problem

$$\underset{t\in\{0,1\},v\in\{L,R\}}{Max} \quad t\left[d_i - C(v_i\,;\, y_i, \Omega_i)\right] - (1-t)M_i$$

Candidate Choice

The utility loss of voting for candidate L is given by:

$$C(L; y_i, \Omega_i) = E\left[\mathbf{1}\{u(y_i, y_L) < u(y_i, y_R)\} \cdot (u(y_i, y_R) - u(y_i, y_L)) \,|\, \Omega_i\right]$$

, where, $u(y_i, y_j) = -(y_i - y_j)^2$

Candidate Choice

The utility loss of voting for candidate L is given by:

$$C(L; y_i, \Omega_i) = E\left[\mathbf{1}\{u(y_i, y_L) < u(y_i, y_R)\} \cdot (u(y_i, y_R) - u(y_i, y_L)) \,|\, \Omega_i\right]$$

, where, $u(y_i, y_j) = -(y_i - y_j)^2$
Optimal voting rule:

$$v^*(y_i, \Omega_i) = \begin{cases} L & \text{if } E\left[u(y_i, y_L) - u(y_i, y_R) \,|\, \Omega_i\right] > 0 \\ R & \text{if } E\left[u(y_i, y_L) - u(y_i, y_R) \,|\, \Omega_i\right] < 0 \end{cases}$$

Candidate Choice

Candidate Choice Cut-off

$$\tau_i = \frac{E\left[y_R^2 - y_L^2 \,|\, \Omega_i\right]}{2E[y_R - y_L \,|\, \Omega_i]}$$

Optimal voting rule:

$$v^*(y_i, \Omega_i) = \begin{cases} L & \text{if } y_i < \tau_i \\ R & \text{if } y_i > \tau_i \end{cases}$$

Turnout

$$t(y_i, \Omega_i) = \begin{cases} 1 & \text{if } C\left(v_i^*(y_i, \Omega_i)\right) - d_i \leq M_i \\ 0 & \text{if } C\left(v_i^*(y_i, \Omega_i)\right) - d_i > M_i \end{cases}$$

Turnout

$$t(y_i, \Omega_i) = \begin{cases} 1 & \text{if } C\left(v_i^*(y_i, \Omega_i)\right) - d_i \leq M_i \\ 0 & \text{if } C\left(v_i^*(y_i, \Omega_i)\right) - d_i > M_i \end{cases}$$

A reduction in the fines for abstention (M_i), will cause a reduction in turnout

This reduction will be more important among voters who:

1. Have a **lower subjective value of voting** (d_i)
2. Hold **less information about the candidates** (Ω_i)
3. Have an **ideology closer to** τ_i

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Institutional Background

Voting is mandatory for citizens between 18 and 70 years old

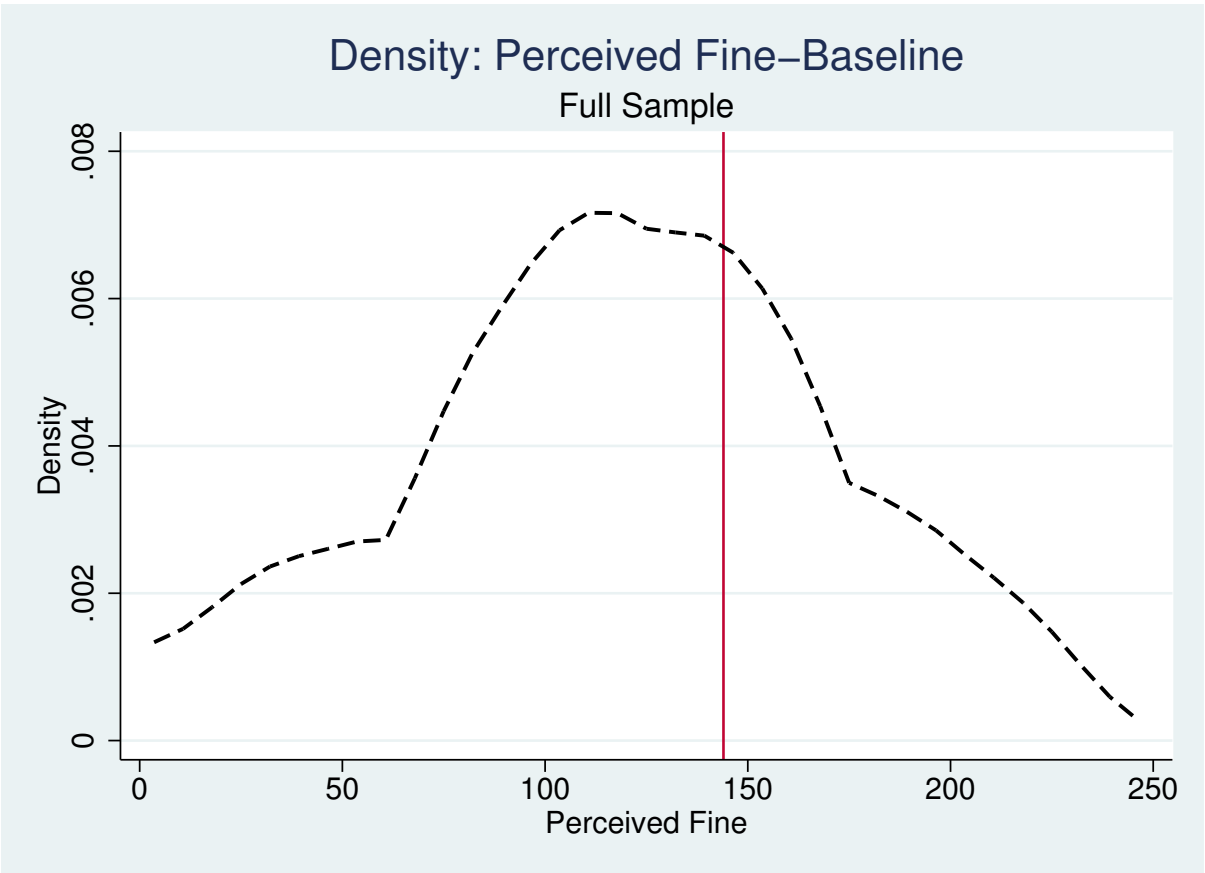
- Consequence of not voting $\rightarrow$ Civil disenfranchisement
- To get back full citizen rights, a fine has to be paid
- Enforcement varies in different instances of government and private offices

Institutional Background

- Before August 2006, the fine was **S/.144** (~ **US$50**)
- **New Law**: The fine was **reduced for everyone**, and the decrease was steeper for voters in poorer districts:
  - Extremely poor districts: **S/.18 (~ US$6)**
  - Poor districts: **S/.36 (~ US$12.5)**
  - Non-Poor: **S/.72 (~ US$25)**

However, information about the new costs of not voting is scarce

Perceive Fines - Baseline



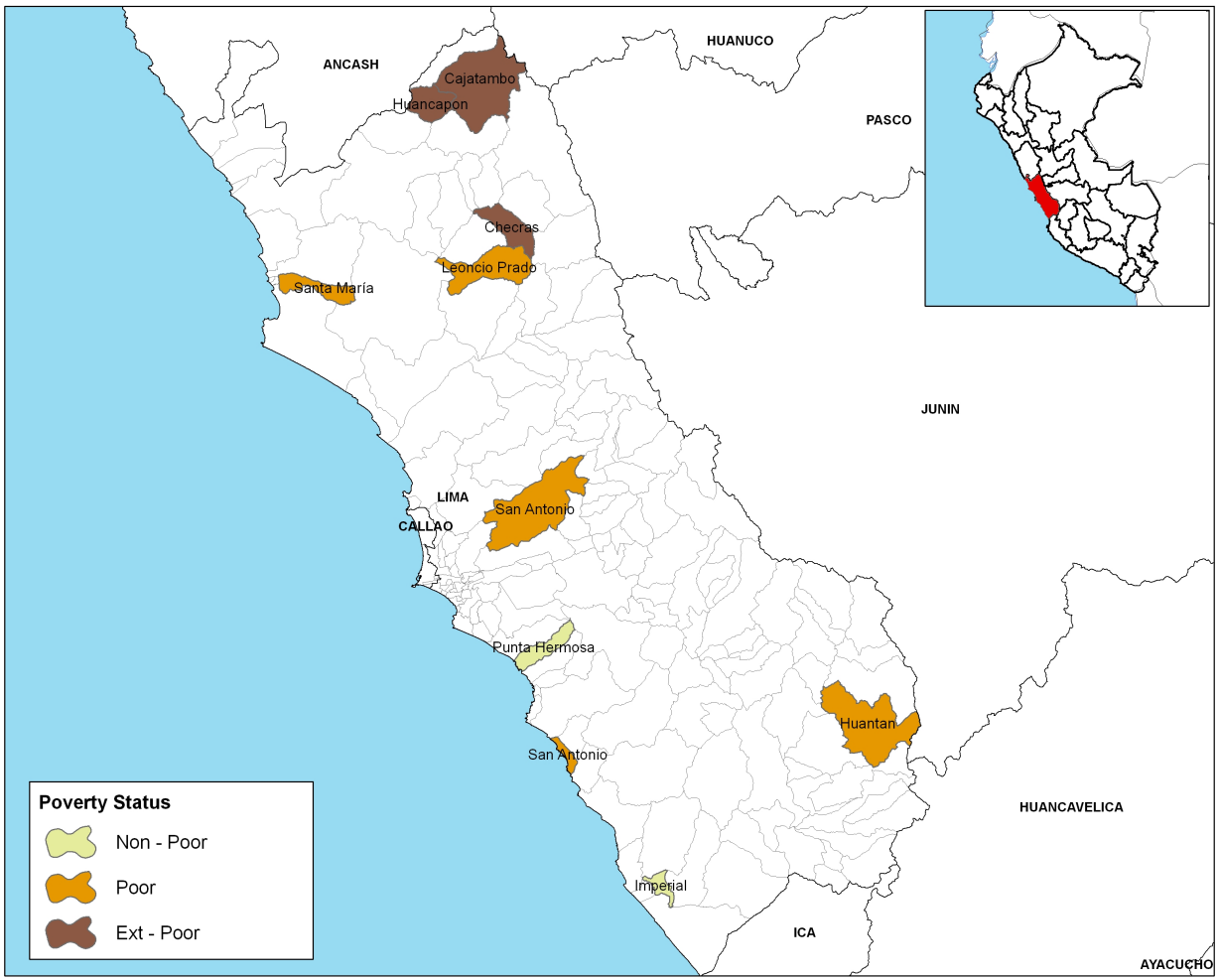
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The Sample

- 10 districts in the Lima Region - Stratified sample, random sampling within village
  Baseline: 2-5 weeks before the 2010 municipal election (October 3^{rd})
  Follow-up: 1-3 weeks after the election
- Interviews to members of the hh who are eligible to vote

Map of the Districts Sampled



Script for the Treatment Group

Thanks a lot for your collaboration with our study.
Now, I would like to give you some information about the sanctions for not voting.
In August 2006, Congress approved a reduction of the fines for not voting (Law No. 28859). According to this law, citizens who don't vote are no longer subject to a fine of S/. 144, but the fine is lower for everyone, and its level depends of the poverty level of the district. According to the information you have provided, if you don't vote in the October election, you will have to pay a fine of S/.[*AMOUNT IN THE DISTRICT WHERE THE VOTER IS REGISTERED*].

Script for the Control Group

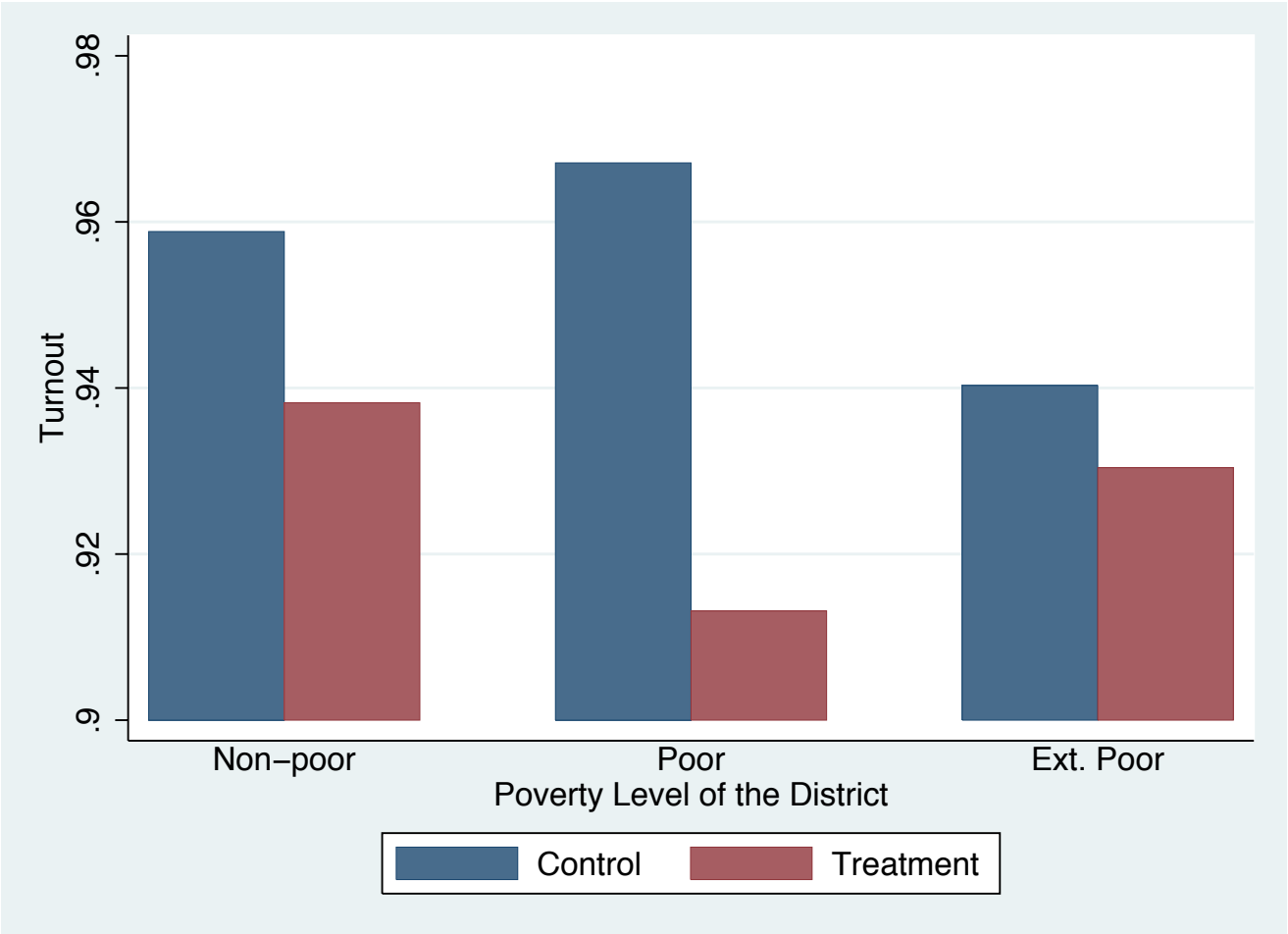
Thanks a lot for your collaboration with our study.
Now, I would like to give you some information about the sanctions for not voting.
Recall that in Perú, abstaining in any election is subject to a sanction, which entails the payment of a fine.

Measurement

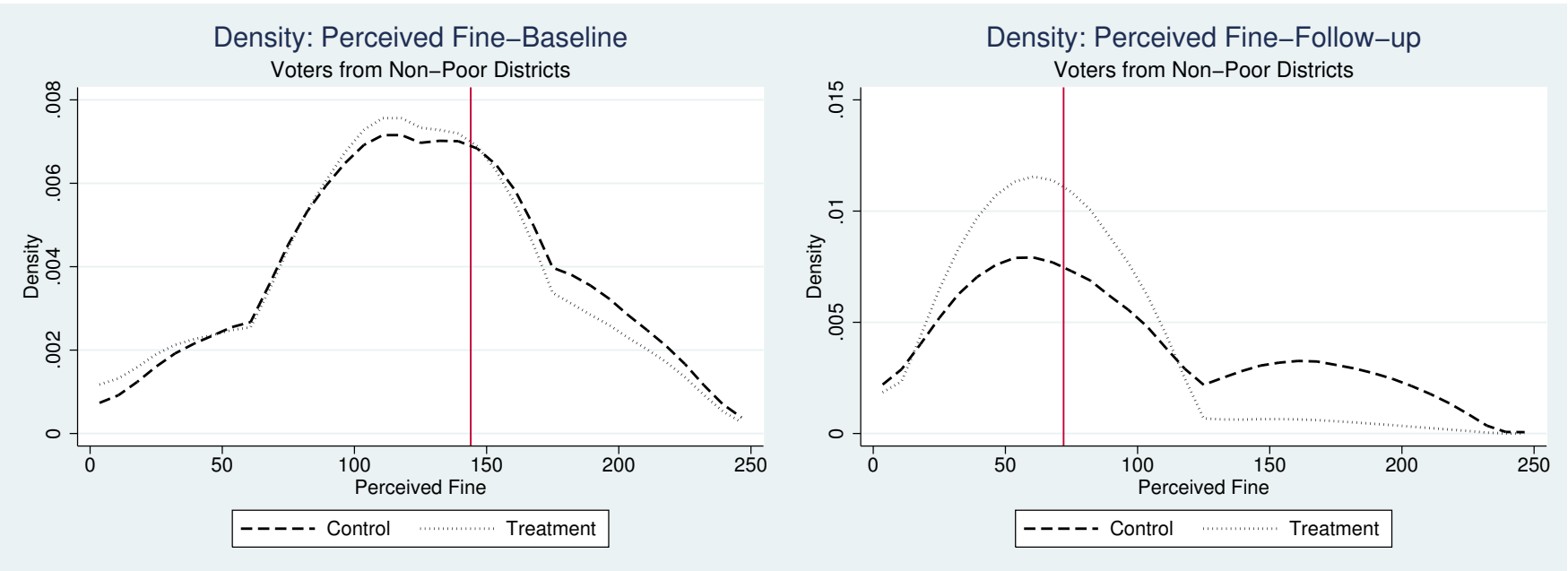
One of the advantages of my research design is that I am able to measure turnout objectively:



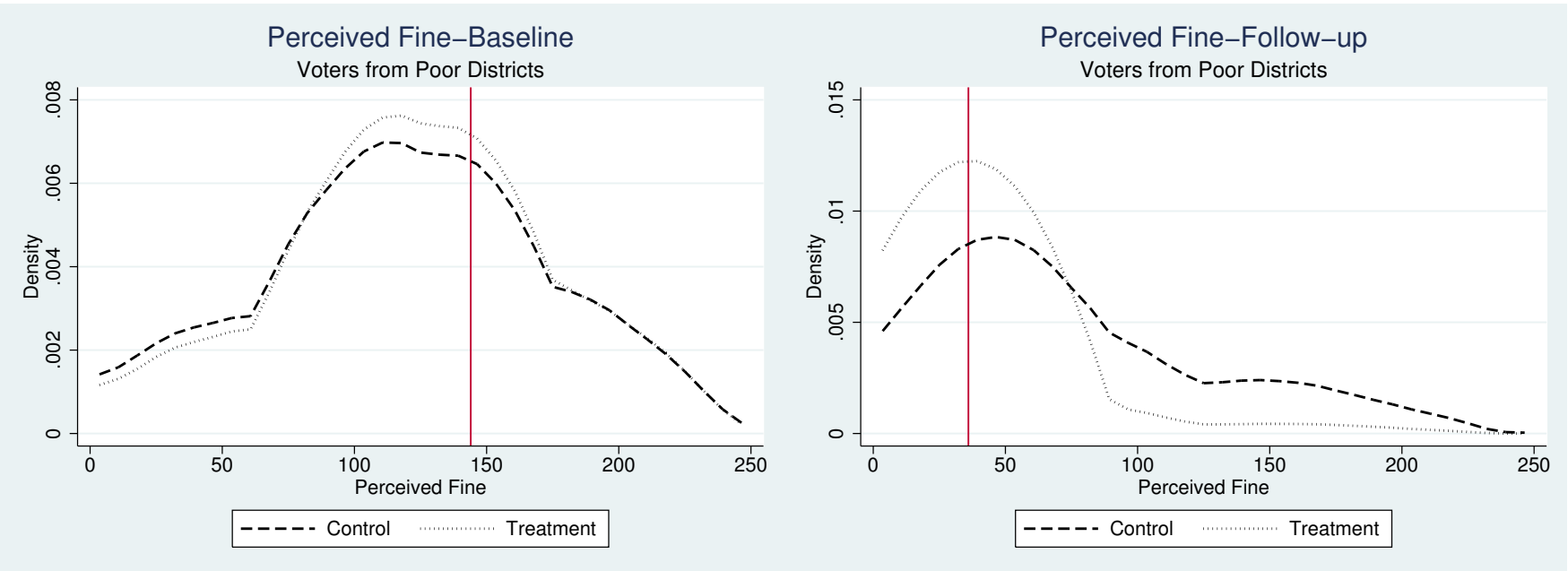
Turnout


.98
.96
.94
.92
.9
Turnout
Non–poor
Poor
Ext. Poor
Poverty Level of the District
Control
Treatment

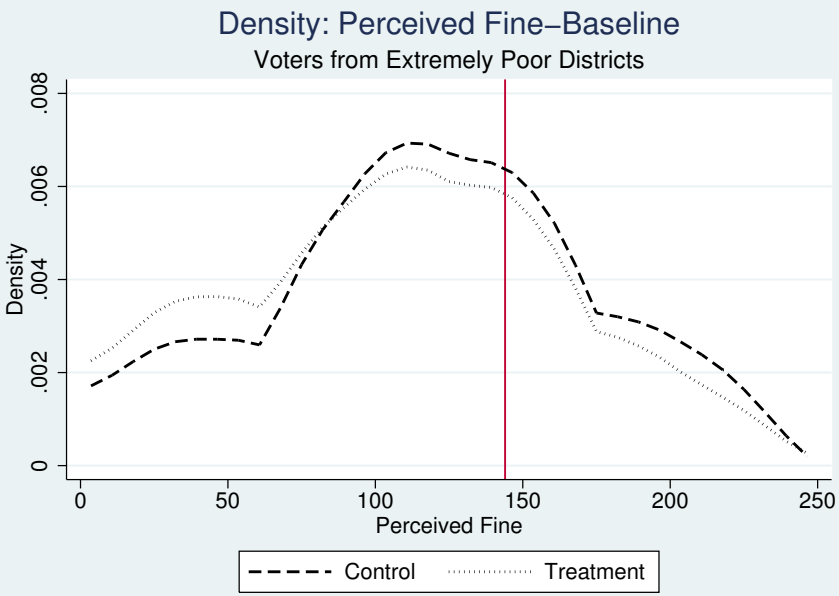
Perceived Fine (Non Poor): Baseline and Follow-up

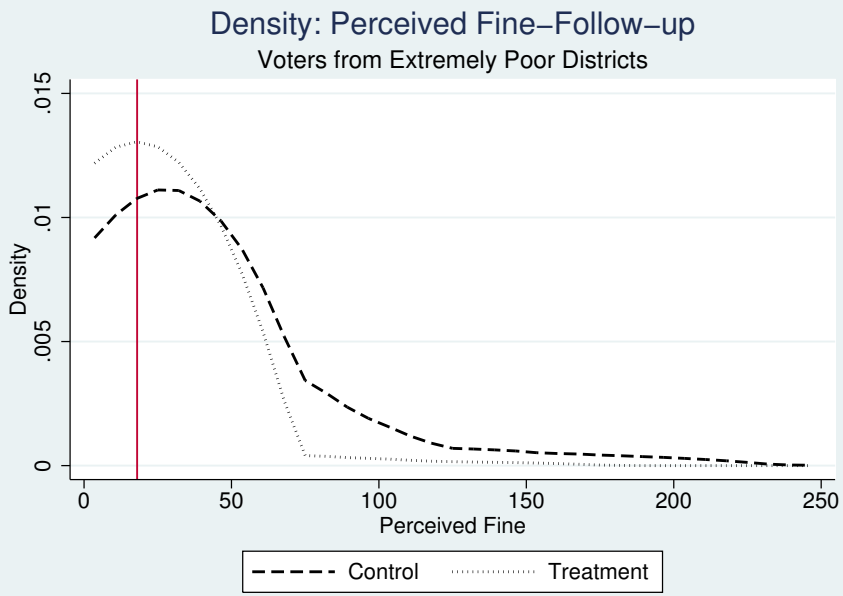


Perceived Fine (Poor): Baseline and Follow-up



Perceived Fine (Extreme Poor): Baseline and Follow-up





Analysis Sample

- Due to the high learning rates in the control group in extremely poor districts, we shouldn't expect turnout rates to be different from the treatment group
  $\rightarrow$ In all the subsequent analysis, I exclude this group of the population

Attrition

Even though the time between the baseline and follow-up surveys was short (30 days, on average), for the analysis sample, we were able to track down 1,732 individuals from 1,166 households
$\rightarrow$ Attrition rate of 8.8 percent of households and 21.7 percent of the respondents interviewed in the baseline

Balance Treatment-Control

Variable	Obs.	Treatment	Control	T - C	P-value
Perceived Fine (Baseline)	1732	122.74	125.25	-2.51	(0.34)
Gender (Male=1)	1732	0.41	0.40	0.01	(0.64)
Age	1732	38.51	38.81	-0.30	(0.63)
Yrs. of education	1732	10.05	10.00	0.05	(0.78)
PC Expenditures	1732	300.99	275.27	25.72	(0.12)
Center	1665	0.68	0.73	-0.04	(0.05)
Left	1665	0.09	0.06	0.03	(0.01)
Right	1665	0.22	0.21	0.01	(0.54)
Policy Extreme 1 (Pub. goods)	1732	0.14	0.16	-0.02	(0.28)
Policy Center	1732	0.58	0.61	-0.03	(0.20)
Policy Extreme 2 (Club goods)	1732	0.28	0.23	0.05	(0.02)

Balance Treatment-Control

Variable	Obs.	Treatment	Control	T - C	P-value
Very Interested in politics	1713	0.07	0.07	0.00	(0.90)
Interested in politics	1713	0.48	0.45	0.02	(0.30)
Not Interested in politics	1713	0.45	0.48	-0.03	(0.27)
Very Interested in the campaign	1714	0.09	0.09	0.00	(0.88)
Interested in the campaign	1714	0.57	0.54	0.04	(0.12)
Not Interested in the campaign	1714	0.33	0.37	-0.04	(0.08)
Name recall- Candidates running	1732	0.36	0.36	-0.00	(0.78)
Name recall- Parties running	1732	0.28	0.30	-0.01	(0.35)
Name recall- Candidates+Parties	1732	0.32	0.33	-0.01	(0.54)
Political information score	1732	0.56	0.55	0.01	(0.42)

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Estimation Strategy

Given the imperfect compliance, I rely on the exogenous variation in the changes in the perceived fines introduced by the treatment to estimate the local average treatment effect (LATE)
The first stage is given by:

$$\triangle Fine_{ikj} = \beta_1 NonPoor_{ij} \cdot Treat_{ikj} + \beta_2 Poor_{ij} \cdot Treat_{ikj} + \beta_3 Poor_{ij} + \beta_4 NonPoor_{ij} + \gamma X_{ikj} + \delta_k + \nu_{ikj}$$

The effect of changes in the perceived fines on turnout for voters whose information set was updated by the treatment is estimated in the second stage:

$$Vote_{ikj} = \beta_1 \triangle Fine_{ikj} + \beta_2 Poor_{ij} + \beta_3 NonPoor_{ij} + \gamma X_{ikj} + \delta_k + \varepsilon_{ikj}$$

Effect of the Treatment on Perceived Fine (FS)

	Dep. Var: △ Perceived Fine		
	Non-Poor	Poor	All
Treatment: Fine S/.72	-16.962		-17.420
	(4.903)***		(4.851)***
Treatment: Fine S/.36		-28.908	-28.848
		(4.707)***	(4.644)***
Controls	Y	Y	Y
Village FE	Y	Y	Y
Mean dep. var.	-49.51	-66.18	-58.00
Obs.	850	882	1732
First Stage F-stat	11.97	37.72	25.63

IV

	Dep. Var: Voted in the 2010 Election		
	Non-Poor	Poor	All
△ Perceived Fine	0.0016	0.0018	0.0017
	(0.001)*	(0.0006)***	(0.0005)***
Controls	Y	Y	Y
Village FE	Y	Y	Y
Mean dep. var.	0.9482	0.9410	0.9446
Obs.	850	882	1732
F-statistic	11.97	37.72	25.63

Reduction in turnout for the average voter in: non-poor district 7.9pp; poor district 11.9pp.

Elasticity of voting with respect to the cost is -0.22

IV

	Dep. Var: Voted in the 2010 Election		
	Non-Poor	Poor	All
△ Perceived Fine	0.0016	0.0018	0.0017
	(0.001)*	(0.0006)***	(0.0005)***
Controls	Y	Y	Y
Village FE	Y	Y	Y
Mean dep. var.	0.9482	0.9410	0.9446
Obs.	850	882	1732
F-statistic	11.97	37.72	25.63

Point estimates for poor and non-poor are not statistically different from each other: constant elasticity through the income distribution

Placebo: IV on Past Turnout

	Dep. Var: Voted in the 2006 Election		
	Non-Poor	Poor	All
△ Perceived Fine	-.00018	0.0007	0.00008
	(0.0012)	(0.0006)	(0.0005)
Controls	Y	Y	Y
Village FE	Y	Y	Y
Mean dep. var.	0.9459	0.9444	0.9451
Obs.	757	791	1548
F-statistic	9.49	29.64	20.84

Robustnes: Perceived Consequences of Abstention

	Dep. Var: Consequence of Abstaining: Can't use				
	Fine	Banks	Notariat or registry	Pubic instit.	Other: (travel, jobs, etc.)
Treat: Fine S/.72	-.0025	0.0189	0.0089	0.0324	0.0252
	(0.0079)	(0.0269)	(0.018)	(0.0221)	(0.0329)
Treat: Fine S/.36	-.0098	-.0019	-.0081	-.0097	0.0306
	(0.0096)	(0.0215)	(0.0165)	(0.0185)	(0.0259)
Controls	Y	Y	Y	Y	Y
Village FE	Y	Y	Y	Y	Y
Mean dep. var.	0.983	0.153	0.072	0.106	0.287
Obs.	1732	1732	1712	1712	1712

Interest in Politics

	Dep. Var.: Voted in the 2010 Election	
	(1)	(2)
△ Fine*Very interested in politics	0.0002	
	(0.0017)	
△ Fine*Interested in politics	0.0014	
	(0.0008)*	
△ Fine*Not interested in politics	0.0019	
	(0.0007)***	
△ Fine*Very interested in results		0.0008
		(0.0006)
△ Fine*Interested in results		0.002
		(0.0008)***
△ Fine*Not interested in results		0.0042
		(0.0022)*

The reduction in turnout due to a decrase in M_i is stronger among voters with a lower d_i

Information About the Candidates

	Dep. Var: Voted in the 2010 Election		
	(1)	(2)	(3)
△ Perceived Fine	0.0026	0.0023	0.0026
	(0.0008)***	(0.0007)***	(0.0008)***
△ Fine*Candidate recall	-.0024		
	(0.0012)**		
△ Fine*Party recall		-.0023	
		(0.0012)*	
△ Fine*Candidate and Party recall			-.0028
			(0.0013)**

A reduction in M_i causes a larger reduction in turnout among voters who have less informartion about the candidates (Ωi)

Ideological Positions

	Dep. Var: Voted in the 2010 Election	
	(1)	(2)
△ Fine*Left	-.0010	
	(0.0027)	
△ Fine*Center	0.0016	
	(0.0006)***	
△ Fine*Right	0.001	
	(0.0008)	
△ Fine*Policy Extreme 1		0.0012
		(0.0014)
△ Fine*Policy Center		0.0022
		(0.0007)***
△ Fine*Policy Extreme 2		0.0005
		(0.001)

The reduction in turnout due to a decrase in M_i is explained by centrist voters (whose y_i is closer to τ_i)

Preference Aggregation and Information Acquisition

- Lower fines for not voting draw a lower share of the population the polls
  - Particularly, voters who are in the **center of the ideological spectrum**, those who have **lower subjective value of voting**, and **uninformed voters** select out of the pool
- The natural question that follows regards the implications for the aggregation of citizen preferences and information acquisition
  - Theory is mixed on mandatory voting: Krishna and Morgan (2011), Ghosal and Lockwood (2009)
  - Information acquisition: Martinelli (2005), Oliveros (2011), Degan (2011)

Policy Preferences

	Dep. Var.: Voted in the 2010 Election	
Policy	Coeff. on △ Perceived Fine	Coeff. on △ Perceived Fine*Policy
Health	0.0019	-.0005
	(0.0008)**	(0.0009)
Education	0.0009	0.0012
	(0.0005)*	(0.001)
Infrastructure	0.001	0.0007
	(0.0011)	(0.0012)
Order and Security	0.0022	-.0012
	(0.0007)***	(0.001)
Promote micro-enterprises/training	0.0016	0.0002
	(0.0005)***	(0.0012)
Agriculture	0.0022	-.0020
	(0.0007)***	(0.0008)**
Youth/Women	0.0013	0.0013
	(0.0006)**	(0.0011)
Cleaning/Environment	0.0013	0.0007
	(0.0005)**	(0.001)
Institutions	0.0018	-.0010
	(0.0006)***	(0.001)
Social/work programs	0.0017	-.0004
	(0.0006)***	(0.001)

Information Acquisition

	Dep. Var.:		
	(1)	(2)	(3)
	△ Candidate Recall	△ Party Recall	△ Cand.+Party Recall
△ Perceived Fine	-.0003	-.0006	-.0004
	(0.0005)	(0.0006)	(0.0005)
Village FE	Y	Y	Y
Obs.	1732	1732	1732
F-Stat	25.62	25.62	25.62

Voters who are sensitive to the changes in M_i don't acquire information differentially

Vote Buying

	Dep. Var:		
	(1)	(2)	(3)
	1=Accepted Money or a Gift	Amount Accepted Directly	Amount Accepted Indirectly
△ Perceived Fine	-.0002	-.0657	0.0105
	(0.0009)	(0.0485)	(0.0176)
Controls	Y	Y	Y
Village FE	Y	Y	Y
Mean dep. var.	0.310	7.03	3.22
Obs.	1732	537	537
F-statistic	25.64	11.40	11.40

A reduction in M_i (increase in the opportunity cost of voting) doesn't affect the amount of vote buying, but makes the votes more expensive

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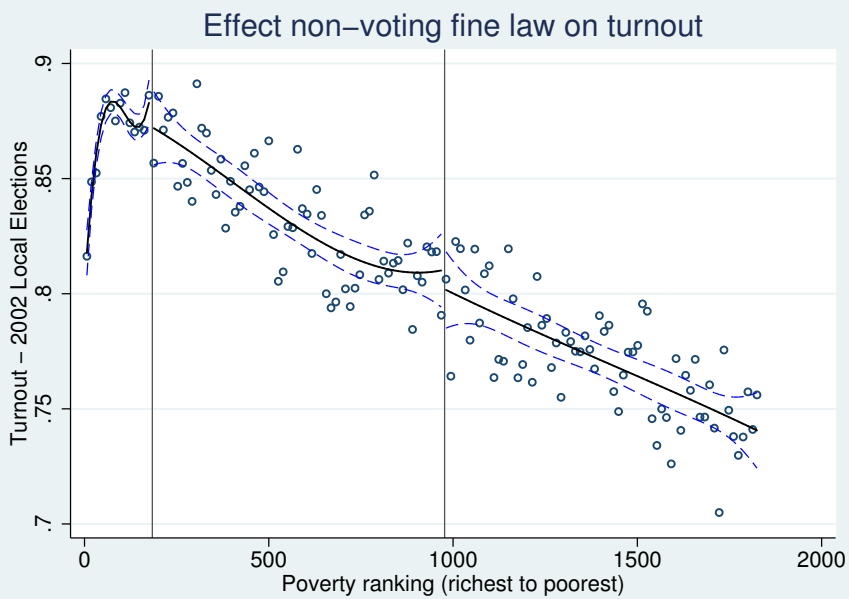
1. The elasticity of voting with respect to the cost is -0.22
2. The reduction in turnout caused by the lower fine changes the composition of the electorate
   - Voters who are in the center of the ideological spectrum, those who have lower subjective value of voting (or who are less interested in politics), and uninformed voters select out of the pool of voters
   - Voters who select out of the electorate do not seem to have different policy preferences than those who vote regardless of the fines
   - Voters do not stop acquiring political information

Thanks!

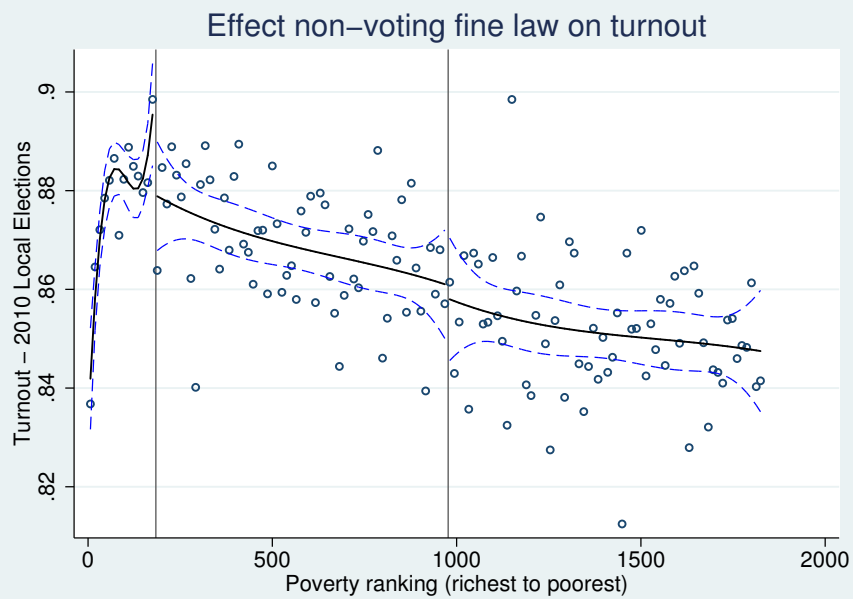


District Level Analysis - RD

2002 Local Elections



2010 Local Elections

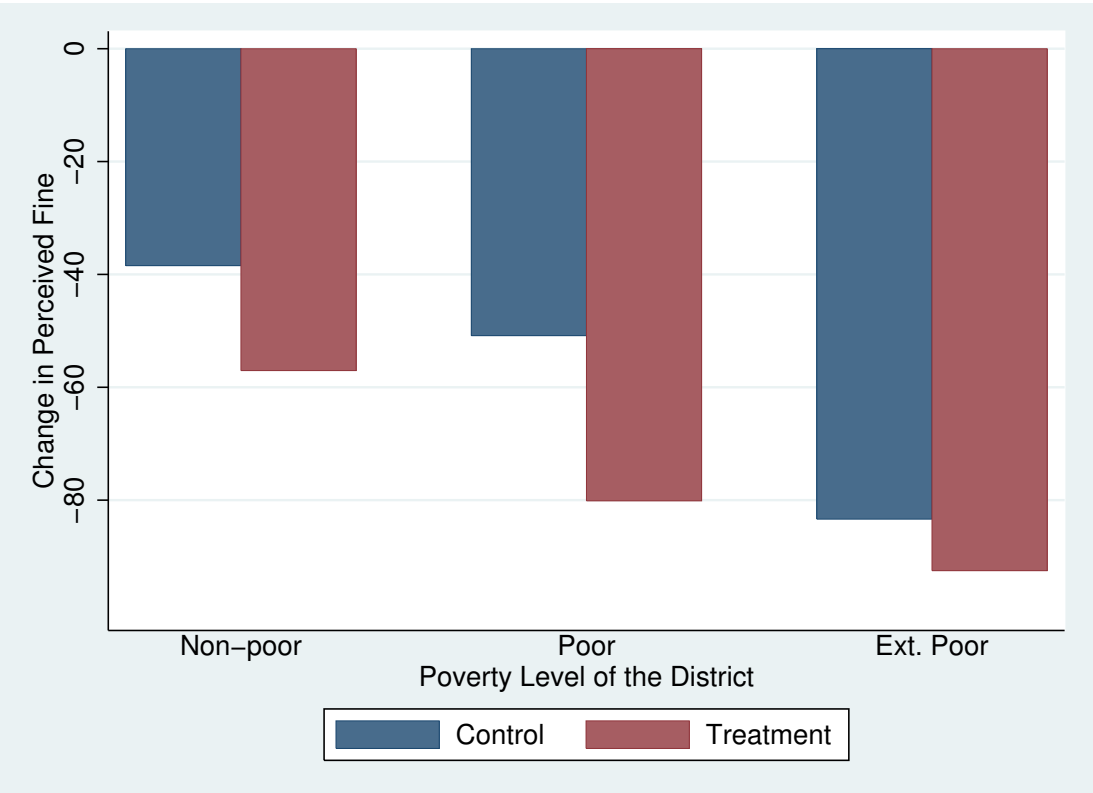


Effect of the Treatment on Turnout (RF)

	Dep. Var: Voted in the 2010 Election		
	Non-Poor	Poor	All
Treatment: Fine S/.72	-.027		-.026
	(0.015)*		(0.015)*
Treatment: Fine S/.36		-.052	-.053
		(0.016)***	(0.016)***
Controls	Y	Y	Y
Village FE	Y	Y	Y
Mean Dep Var	0.948	0.941	0.945
Obs.	850	882	1732

Effect of the treatment on turnout: -2.6pp. for non-poor; -5.3pp. for poor

Change in Perceived Fine



Turnout

	Total	Treatment	Control	T - C	P-value
Non-Poor	0.948	0.938	0.959	-0.021	(0.175)
Poor	0.941	0.913	0.967	-0.054	(0.001)
Extreme Poor	0.935	0.930	0.940	-0.010	(0.641)
Total	0.942	0.927	0.958	-0.031	(0.002)