

# 14.750x: Selection, Moral Hazard, and Voting

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# Voting and Agency

- The voting literature we talked about last time was all about the *policy* dimension of a politician's stated positions
  - e.g., some politicians will implement more spending and some will do less
  - e.g., some will implement pro gay-marriage policies and some will not
- In that model politicians don't have quality. They are all the same.
- In the next lectures, we'll consider what happens when politicians vary in quality
  - e.g., some politicians are incompetent and some are competent
  - e.g., some politicians are corrupt and others are honest

# Voting and Agency

- We'll talk about two ways this heterogeneity can come about:
  - ➊ *Selection.* Politician quality is a fixed characteristic, and the voters are learning about it. I try to figure out who is good, and re-elect the good ones.
  - ➋ *Moral hazard.* Politicians can choose whether to be good or bad. They choose to behave well because voters may punish them (by not re-electing them) if they behave badly.
- For a lot of applications, it doesn't matter whether it's #1 or #2, but we'll see if we can tease out whether some aspect of both are going on

# Outline

- A basic agency model that incorporates both selection and moral hazard
- Evidence
  - Do voters reward good politicians
    - For passing out goodies (e.g. delivering programs)
    - For being good types (e.g. not being corrupt)
  - Do politicians respond to these incentives by becoming more honest?
    - Can we distinguish moral hazard from selection?

## Model 1: Moral Hazard

- Suppose that a politician likes being re-elected
  - If re-elected, gets benefit  $B$ . If not, gets 0
  - e.g., perks of being in office, etc
- While in office (before re-election), politician has a choice of actions,  $a \in [0, 1]$ .
  - $a = 0$  is preferred by the politician. He gets benefit  $b$  from choosing  $a = 0$ .
  - $a = 1$  is preferred by the voters.
- What is  $a$ ?
  - *Effort.* e.g., passing a new bill takes a lot of work. He'd prefer to play golf.
  - *Lack of corruption.* Politician prefers to steal, but public doesn't want him to
  - *Lack of crony capitalism.* Politician prefers to give jobs
- Denote  $\Pr(\text{reelect} | a)$  is the probability of re-election conditional on the action  $a$ .

# Moral Hazard

- If voters reward politicians for good actions, then

$$\Pr(\text{reelect} \mid a = 1) > \Pr(\text{reelect} \mid a = 0)$$

- This is the idea that voters reward politicians for good behavior.
- The incumbent will therefore choose  $a$  when

$$B \Pr(\text{reelect} \mid a = 1) \geq B \Pr(\text{reelect} \mid a = 0) + b$$

which we can rewrite as

$$B [\Pr(\text{reelect} \mid a = 1) - \Pr(\text{reelect} \mid a = 0)] \geq b$$

- What does this imply?
  - The greater the temptations of slacking off in office (the greater the  $b$ ), the more likely he will choose the low action anyway
  - What happens if we impose term limits? Then we get low action for sure. This will be the empirical test we'll use to see whether politicians respond in this way.

# Selection

- Next question: how do voters choose  $\Pr(\text{reelect} \mid a)$ ?
- Imagine there are three types of politicians in the world, good types, opportunistic types, and bad types
  - Good types always choose  $a = 1$ .
  - Bad types always choose  $a = 0$ .
  - Opportunistic types will do whatever they think is optimal, as above.
- Suppose that the population consists of
  - Good types (proportion  $\alpha$ )
  - Bad types (proportion  $\beta$ )
  - Opportunistic types (proportion  $1 - \alpha - \beta$ ).

# Timing

- There are two periods.
- First period.
  - Politician chosen from the distribution. Good with probability  $\alpha$ . Bad with probability  $\beta$ . Opportunistic with probability  $1 - \alpha - \beta$ .
  - He chooses an action  $a$ .
  - Voters observe a signal (more about this in a moment).
  - Voters decide to re-elect him or not. If they don't re-elect him, the new politician is a random draw from the population with same proportions.
- Second period.
  - No more re-election.
  - Good types choose  $a = 1$ .
  - All else chose  $a = 0$ . (Why?)

# Signals

- After the first period, voters receive a signal  $s \in \{0, 1\}$  about the action of the politician.
  - If politician chooses  $a = 1$ , then voters get  $s = 1$  with probability  $\frac{1}{2}$  and  $s = 0$  with probability  $\frac{1}{2}$ .
  - If politician chooses  $a = 0$ , then voters get  $s = 1$  with probability 0 and  $s = 0$  with probability 1.
- What is a signal? What might this look like in reality?
- What's going to happen?
  - Voters will vote to re-elect if they see  $s = 1$  and not to re-elect if they see  $s = 0$ .
  - Why?

# Signals

- Suppose I see  $s = 1$ . What is the probability the politician is a good type?
  - We use Bayes' Rule. Recall that in general, Bayes' Rule says that

$$P(B | A) = \frac{P(A | B) P(B)}{P(A)}$$

- So in this case

$$\begin{aligned} P(\text{good} | s = 1) &= \frac{\frac{1}{2}\alpha}{\frac{1}{2}\alpha + \frac{1}{2}(1 - \alpha - \beta)a} \\ &= \frac{\alpha}{\alpha + (1 - \alpha - \beta)a} \end{aligned}$$

- If  $a = 0$ , then

$$P(\text{good} | s = 1) = 1$$

- If  $a = 1$ , then

$$P(\text{good} | s = 1) = \frac{\alpha}{1 - \beta}$$

# Signals

- Having seen  $s = 1$ , should I re-elect this guy?
  - In the second period, he'll perform the good action if he's a good type.
  - If I don't re-elect him, the new politician will be a good type with probability  $\alpha$ . Why? Random draw from the population.
  - Conditional on seeing  $s = 1$ , I'll re-elect him if

$$P(\text{good} \mid s = 1) = \frac{\alpha}{\alpha + (1 - \alpha - \beta)a} > \alpha$$

- It's easy to see that

$$\frac{\alpha}{\alpha + (1 - \alpha - \beta)a} > \alpha$$

so the probability he's good having seen that  $s = 1$  is greater than the probability he's good if I redraw from the population.

- Intuition: if I see  $s = 1$ , then I know at least he's not a bad type!
- So if I see the high-signal I re-elect him.

# Signals

- Suppose I see  $s = 0$ . What is the probability the politician is a good type?
  - By the same logic,

$$P(B | A) = \frac{P(A | B) P(B)}{P(A)}$$

- So in this case

$$P(\text{good} | s = 0) = \frac{\frac{1}{2}\alpha}{\frac{1}{2}\alpha + (1 - \alpha - \beta)(1 - \frac{a}{2}) + \beta}$$

- Will I vote to re-elect this guy? No. Why?

# Signals

- Suppose I don't re-elect. Probability I get a good type next period is  $\alpha$ .
- What if I re-elect him? Well,

$$P(\text{good} \mid s = 0) = \frac{\frac{1}{2}\alpha}{\frac{1}{2}\alpha + (1 - \alpha - \beta)(1 - \frac{a}{2}) + \beta}$$

- Is this less than  $\alpha$ ?
- Suppose  $a = 1$ . Then

$$\begin{aligned} P(\text{good} \mid s = 0) &= \frac{\frac{1}{2}\alpha}{\frac{1}{2}\alpha + (1 - \alpha - \beta)(1 - \frac{a}{2}) + \beta} \\ &= \frac{\frac{1}{2}\alpha}{\frac{1}{2}\alpha + (1 - \alpha - \beta)\frac{1}{2} + \beta} \\ &= \frac{\alpha}{1 - \beta + 2\beta} \\ &= \frac{\alpha}{1 + \beta} < \alpha \end{aligned}$$

# Signals

- Suppose  $a = 0$ . Then

$$\begin{aligned} P(\text{good} \mid s = 0) &= \frac{\frac{1}{2}\alpha}{\frac{1}{2}\alpha + (1 - \alpha - \beta)(1 - \frac{a}{2}) + \beta} \\ &= \frac{\frac{1}{2}\alpha}{\frac{1}{2}\alpha + (1 - \alpha - \beta) + \beta} \\ &= \frac{\frac{1}{2}\alpha}{1 - \frac{\alpha}{2}} \\ &= \frac{\alpha}{2 - \alpha} < \alpha \end{aligned}$$

- So likewise, I don't want to re-elect him.

# Signals

- Intuition for what's going on:
  - Since good types always give the good signal, and bad types always give the bad signal, if I see a good signal it's slightly more likely he's the good type, and if I see the bad signal, it's slightly more likely he's the bad type
- So the bottom line is:
  - Vote to re-elect if  $s = 1$ , since there's a higher chance he's a good type.
  - Vote not to re-elect if  $s = 0$ , since there's a higher chance he's a bad type.
- Given this, the opportunistic type is more likely to behave well in the first period, since he is more likely to get re-elected if he behaves well.

# Interpretation

- This model has elements of selection and moral hazard:
  - *Selection:* I vote for the types for whom I get good signals because I think they are more likely to behave well in the future (i.e. because they are more likely to be good types)
  - *Moral hazard:* Because voters reward good behavior, opportunistic politicians behave better.
- Some notes about this model
  - By behaving well in period 1, the opportunistic politician is "fooling" the electorate into thinking maybe he's the good type that will behave in the second period.
  - You can extend this model to multiple periods and get similar results.
  - Behavior is also not all or nothing. A similar logic applies to continuous actions.

# Types

- Why are the types important in this model?
- Suppose there were no good types, i.e.  $\alpha = 0$ .
  - Then all types will choose  $a = 0$  in the second period.
  - Voters therefore don't care whether to re-elect or not.
  - Therefore the opportunistic types have no incentive to be good.
  - A key driver in the model is that by working harder, opportunistic types look more like good types, and are more likely to get reelected

# Types

- Suppose there were no bad types, i.e.  $\beta = 0$ .
  - This is trickier.
  - Opportunistic types still have an incentive to be good, because they can pretend to be good types.
  - So suppose they chose  $a = 1$ . So they behave just like good types.
  - Then the voter doesn't really get any information from the signal – this is a "pooling model" – since the signal contains no information. Why?
  - Recall that

$$P(\text{good} \mid s = 1) = \frac{\alpha}{\alpha + (1 - \alpha - \beta)a}$$

With  $\beta = 0$  and  $a = 1$  this simplifies to

$$P(\text{good} \mid s = 1) = \frac{\alpha}{\alpha + (1 - \alpha)} = \alpha$$

So I learn nothing from receiving a good signal. Likewise for a bad signal.

• So voters are indifferent.

## Types

- I put the bad types in the model so that the signal always contains information (i.e. if we get the good signal, we know you're not a bad type), so voters strictly prefer to use the information in their signal.
- Note, though, that we really need only a small amount of the types for the model to work.

# Agency in Practice

- We'll examine several aspects of the agency idea:
- From the voters side:
  - Do voters reward politicians who appear to do better? I.e., do voters reward politicians when they directly get benefits from government?
  - What are the implications for policy?
  - Do voters reward politicians who are better types when they observe a signal of type directly?
- From the politician's side:
  - Do politicians behave worse when they don't face re-election incentives?

# Do voters reward politicians who appear to do better?

Manacorda, Miguel, and Vigorito (2010): Government Transfers and Political Support

- Setting:

- Uruguay PANES, a large anti-poverty program
  - 190,000 people applied
  - They were then visited and received a survey
  - 102,000 eventually become program beneficiaries – around 10% of all households

- How did they decide who should receive the program?

- They would have liked to do a means-test (i.e., based on income), but
  - not enough information (too easy to lie to government)
  - Instead, they did what's called a "Proxy Means Test"
  - In a survey, they ran a regression of

$$income = \alpha + \beta X + \varepsilon$$

where  $X$  is a large number of household characteristics that are hard to lie about (housing characteristics, etc)

- They looked at  $\widehat{income}$ , which is predicted income from that regression
  - All households with  $\widehat{income} < cutoff$  received the program

# Predicted income and program receipt

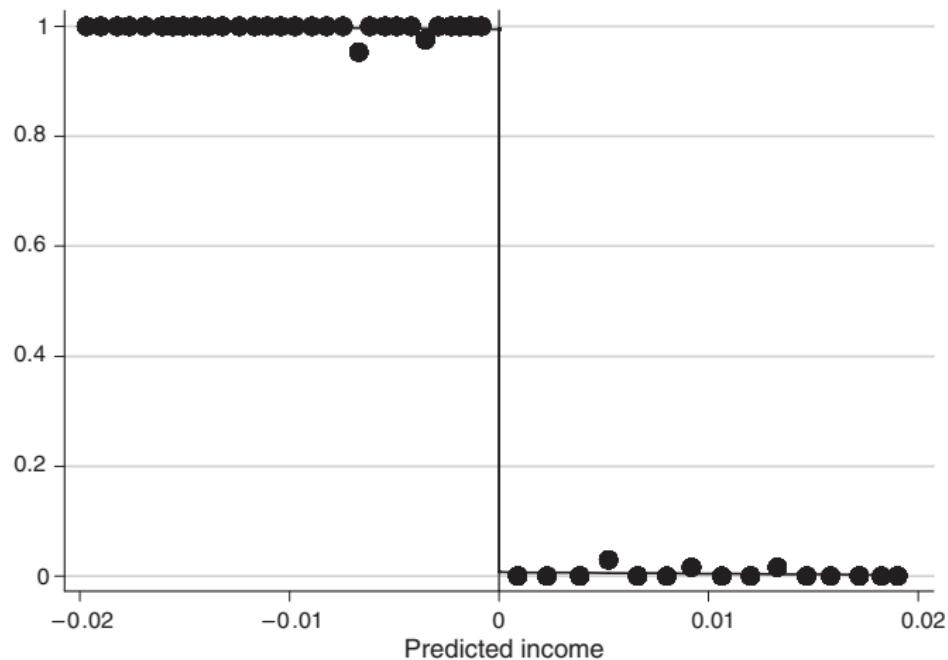


FIGURE 2. PANES PROGRAM ELIGIBILITY AND PARTICIPATION

## How to use this to estimate the impact on political support

- Given this, how do they estimate the impact on political support?
- This is a natural example of a regression discontinuity!
  - They look above and below the cutoff line and look for changes in political support
  - Measure this using a household survey
  - We can see the results in pictures

# Political support for the government, during the program (2007)

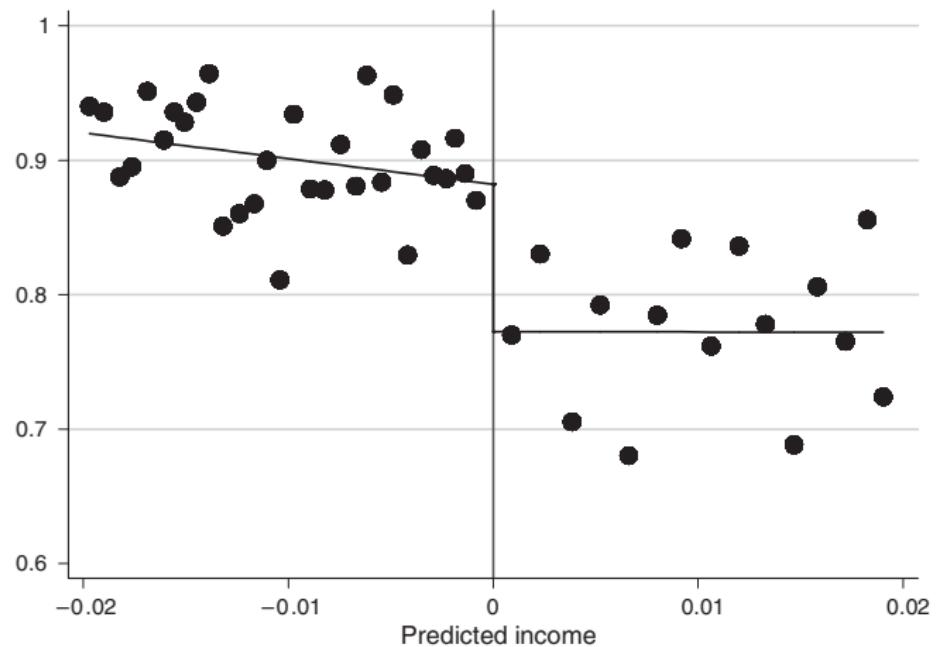


FIGURE 3. PANES PROGRAM ELIGIBILITY AND POLITICAL SUPPORT FOR THE GOVERNMENT,  
2007 FOLLOW-UP SURVEY ROUND

# Political support for the government, after program (2008)

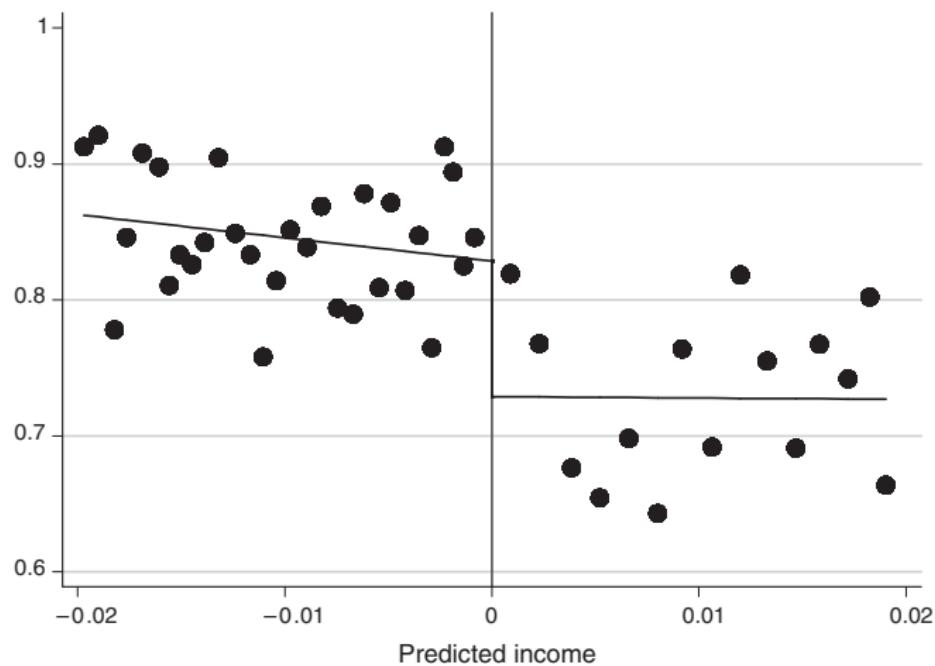


FIGURE 4. PANES PROGRAM ELIGIBILITY AND POLITICAL SUPPORT FOR THE GOVERNMENT, 2008 FOLLOW-UP SURVEY ROUND

# Confidence in the President

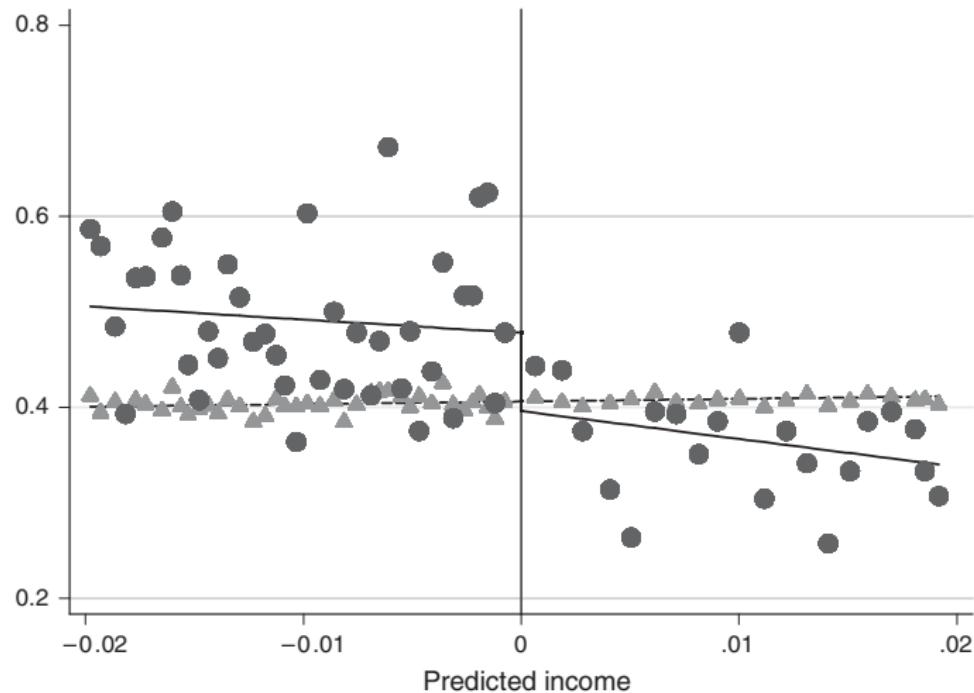


FIGURE 5. CONFIDENCE IN PRESIDENT: ACTUAL (circles/solid line) AND PREDICTED BASED ON *LATINOBARÓMETRO* (triangles/dashed line)

# Who benefits

Confidence in the:			
10. Ministry of Social Development	0.39	0.185*** (0.038)	1,732
11. President	0.37	0.091** (0.040)	1,854
12. Political parties	0.12	0.035 (0.028)	1,804
13. Social Security administration	0.47	0.022 (0.036)	1,812
14. Local councils	0.30	0.027 (0.036)	1,773
15. Parliament	0.21	0.017 (0.037)	1,370
16. National pride	0.79	0.049** (0.024)	1,900
17. Interest in politics	0.20	0.065** (0.031)	1,939
18. Believes that hard work pays off in life	0.35	0.022 (0.025)	1,910

## Bottom line....

- Bottom line:
  - People may reward politicians for channeling support to them
  - Particular impact through turnout
  - Caveat: not always true! E.g., Imai et al (2016) find no similar effects for health insurance in Mexico.
- Thinking back to the model, this says that

$$\Pr(\text{reelect} \mid a = 1) > \Pr(\text{reelect} \mid a = 0)$$

- If this is true, then what are the implications for politician behavior?
  - Suggests incumbents will work harder to get certain kinds of programs through ( $a = 1$ )
    - What kind?
  - Suggests they will target programs to those people who are likely to be marginal in turnout
    - What else?

## Bottom line....

- Politicians tend to rebrand programs to try to get credit (in Mexico, Progresa was rebranded Oportunidades by the new administration – same program, new name)
- Opposition parties will try to block them: happened in Indonesia
- Is it always a bad thing that they are blocked?
- What about the budget constraint?
- We don't have a lot of evidence yet on how these things feed back into policy, but these implications seem intuitive

# Competence

- A second idea we had in the model is that there are types of politicians
  - Good (competent, honest) types
  - Bad (incompetent, dishonest) types
- In the model, when voters learn about a politician's types, it affects their voting behavior
- Is this true in practice?

# Does the electorate respond to information about corruption?

Ferraz and Finan (2008): "Exposing Corrupt Politicians: The Effects of Brazil's Publicly Released Audits on Electoral Outcomes"

- Setting: municipal governments in Brazil
- Empirical idea:
  - Starting in 2003, the central government randomly selected 26-60 municipalities each month for audits, the results of which were made publicly available
  - Examine the results of the audits to construct an 'objective' measure of corruption
  - Compare 2004 election results of those audited before vs. after the election conditional on level of corruption
    - Is this plausible? What are the threats to identification? What would you want to know to be convinced?
  - They then show that the effects are bigger if the media is stronger, so the information is more likely to get out

# Random audits



## Balance tests

- Show that overall corruption levels look similar before and after election:

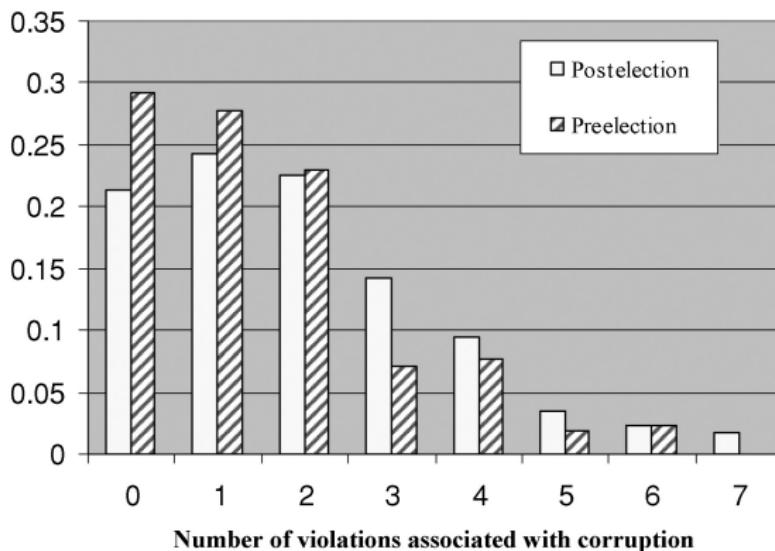


FIGURE I  
Distribution of Corruption Violations by Pre- versus Postelection Audits

## Balance tests

- Why is this important? Is this sufficient? We'd like to know if the conditional correlates of corruption findings change before and after election.
- They show later that there are no interactions of pre-election audit with political party, margin of victory in previous election, or being in governor's party

# Results on average

- No effect on average

	Pr(reelection)		Pr(reelection)		Vote share	Win margin
	(1)	(2)	(3)	(4)		
Preelection audit (1/0)	-0.036 [0.053]	-0.036 [0.052]	-0.059 [0.065]	-0.055 [0.072]	-0.055 [0.072]	-0.020 [0.027]
Observations	373	373	263	263	263	263
R <sup>2</sup>	0.05	0.17	0.22	0.16	0.22	
State fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Municipal characteristics	No	Yes	Yes	Yes	Yes	Yes
Mayoral characteristics	No	Yes	Yes	Yes	Yes	Yes

# Results by corruption level

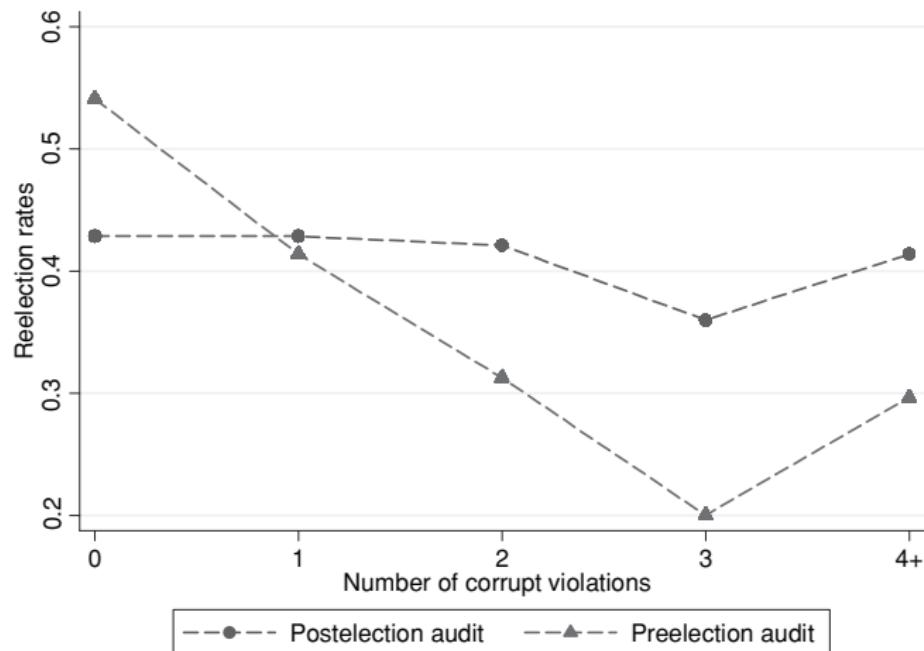


FIGURE III  
Relationship between Reelection Rates and Corruption Levels

## Results by corruption level

- Why might the results differ depending on corruption level?
- The idea is that if you are not corrupt, we don't learn much. If you're very corrupt, we probably knew that already
- So we are only getting new information if you're in the intermediate part of corruption

# Results

	Linear		Quadratic	Semiparametric
	(1)	(2)	(3)	(4)
Preelection audit	0.029 [0.083]	0.030 [0.082]	0.126 [0.101]	0.084 [0.104]
Preelection audit $\times$ number of corrupt violations	-0.038 [0.035]	-0.038 [0.035]	-0.200 [0.090]*	
Preelection audit $\times$ number of corrupt violations <sup>2</sup>			0.034 [0.017]*	
Preelection audit $\times$ corruption = 0				0.010 [0.156]
Preelection audit $\times$ corruption = 2				-0.253 [0.148]+
Preelection audit $\times$ corruption = 3				-0.321 [0.192]+
Preelection audit $\times$ corruption = 4+				-0.159 [0.168]
Number of corrupt violations	-0.013 [0.026]	-0.012 [0.027]	0.037 [0.066]	
Number of corrupt violations <sup>2</sup>			-0.009 [0.011]	

# Media Results

- Suggests that impact is amplified by media

Dependent variable: Pr(reelection)	Full sample (1)	Corruption $\leq$ 5 (2)	Demographic interactions (3)	Demographic and institutional interactions (4)
Preelection audit	-0.059 [0.091]	-0.033 [0.096]	0.296 [1.121]	0.208 [1.247]
Number of corrupt violations	-0.034 [0.029]	-0.013 [0.035]	-0.13 [0.224]	-0.069 [0.288]
Number of radio stations	-0.131 [0.064]*	-0.150 [0.063]*	-0.216 [0.073]**	-0.253 [0.083]**
Preelection audit $\times$ number of radio stations	0.229 [0.099]*	0.271 [0.104]**	0.356 [0.115]**	0.449 [0.129]**
Preelection audit $\times$ number of corrupt violations	0.007 [0.038]	-0.018 [0.044]	-0.236 [0.402]	-0.412 [0.430]
Number of corrupt violations $\times$ number of radio stations	0.050 [0.026]+	0.058 [0.025]*	0.082 [0.025]**	0.09 [0.028]**
Preelection audit $\times$ corrupt violations $\times$ radio stations	-0.118 [0.045]**	-0.157 [0.067]*	-0.185 [0.051]**	-0.238 [0.064]**
Dependent variable: Pr(reelection)	Full sample (1)	Corruption $\leq$ 5 (2)	Demographic interactions (3)	Demographic and institutional interactions (4)
Proportion households with radio				
Preelection audit $\times$ households w/ radio				
Number of corrupt violations $\times$ households w/ radio				
Preelection audit $\times$ corrupt violations $\times$ households w/ radio				
Observations	373	362	373	373
R <sup>2</sup>	0.20	0.21	0.24	0.28
Demographic interactions	No	No	Yes	Yes
Institutional interactions	No	No	No	Yes

## A second example

Banerjee, Kumar, Pande and Su (2010): "Do Informed Voters Make Better Choices? Experimental Evidence from Urban India"

- Setting: Elections in Delhi
  - Delhi, India's capital city, is home to roughly 15 million inhabitants a quarter of whom live in slums
  - State legislators can play an important role in providing slum-dwellers access to public goods and private transfers
  - Three major parties contested - each (in different ways) targeted the urban poor and campaigning was widespread
  - Campaigning involved door to door campaigning and party rallies. Both of these were often accompanied by gift-giving (liquor, clothes, food). In addition, more targeted cash-based vote-buying also reported. (We'll talk about vote-buying in a few lectures)
- They use the Indian freedom of information laws to obtain information about politician's performance, as well as their income, education, and criminal charges
  - 60% of incumbents and 25% of challengers had pending criminal charges (!!!)

# Sample report card

**Delhi (Vidhan Sabha) Assembly**  
**"Netaji's" Report card - Affidavit**

Hindustan Monday, 24 November 2008 8

Southern District	No. of legislative constituencies	11	Total allotted money (lakh)	5647.0
			Average Allotment per Area	513.4

Every MLA is given approximately Rs. 2 crore per year for the development of their constituency. This data is of the expenditure from the local area development fund in year 2004-07.

Okhla (6)			Parwej Hashami (Present MLA)		
Attendance (2007) Stamped Questions		Unstamped Questions	Attendance (2007) Stamped Questions		Unstamped Questions
2/18	2	3	2/18	2	3
Allocation of Local Area Development Scheme funds 2004-07			Allocation of Local Area Development Scheme funds 2004-07		
Category	Money (lakh)	Percentage	Category	Money (lakh)	Percentage
Road/Footpath	178.2	58.4	Road/Footpath	346.5	72.6
Drainage	71.4	23.4	Drainage	49.0	10.3
Light	6.9	2.3	Light	12.4	3.6
Park	30.1	10.0	Park	13.6	2.8
Water	0.3	1.0	Water	33.0	5.9
Sewage	30.1	10.0	Sewage	10.8	2.3
Others	6.3	2.1	Others	7.0	1.5
Total	305.0	100	Total	477.4	100
Delhi Water Board (2005-06)			Delhi Water Board (2005-06)		
Delhi Water Board (2006-07)			Delhi Water Board (2006-07)		
Delhi Water board gives Rs. 50 lakh to each MLA per year.					
On Govt. Committees					
Name of the committee	Post held by the MLA	Duration	Last Meeting	Attendance	
Ration vigilance	Chairman	Quarterly	01/04/08	Yes	
District Development	Member	—	15/02/08	No	
Grievance redressal	No committee constituted in Southern district				
Police Thana committee	Chairman	02/08/08	No		

Tuglakabad (35)			Ramesh Bidhuri (Present MLA)		
Attendance (2007) Stamped Questions		Unstamped Questions	Attendance (2007) Stamped Questions		Unstamped Questions
2/18	2	3	2/18	2	3
Allocation of Local Area Development Scheme funds 2004-07			Allocation of Local Area Development Scheme funds 2004-07		
Category	Money (lakh)	Percentage	Category	Money (lakh)	Percentage
Road/Footpath	346.5	72.6	Road/Footpath	30.0	6.7
Drainage	49.0	10.3	Drainage	10.8	2.3
Light	12.4	3.6	Light	1.0	0.2
Park	13.6	2.8	Park	0.0	0.0
Water	33.0	5.9	Water	0.0	0.0
Sewage	10.8	2.3	Sewage	0.0	0.0
Others	7.0	1.5	Others	0.0	0.0
Total	477.4	100	Total	40.8	100
Delhi Water Board (2005-06)			Delhi Water Board (2005-06)		
Delhi Water Board (2006-07)			Delhi Water Board (2006-07)		
Delhi Water board gives Rs. 50 lakh to each MLA per year.					
On Govt. Committees					
Name of the committee	Post held by the MLA	Duration	Last Meeting	Attendance	
Ration vigilance	Chairman	Quarterly	Received 09/09/08	Yes	
District Development	Member	—	15/02/08	No	
Grievance redressal	No committee constituted in Southern district				
Police Thana committee	Chairman	29/08/08	Yes		

# Sample report card

<p>Affidavits from the main candidates of Okhla (New Legislative Constituency no.- 54 )</p>   <p>Congress has declared Parwez Hashami again as its candidate from Okhla.</p> <ul style="list-style-type: none"><li>● <b>Property</b> – Parwez Hashami has declared assets of Rs 3.36 crore belonging to him and his wife.</li><li>● <b>Education</b> – Hashami has a Masters in chemistry. He received his Masters of Arts from Aligarh Muslim University, U.P. in 1977.</li><li>● <b>Criminal Record</b> - According to the affidavit given to the commission, there are eight criminal cases registered against him.</li></ul>	<p>Affidavits from the main candidates of Tuglakabad (New Legislative Constituency no.- 52 )</p>   <p>Congress has declared Sheesh Pal as its candidate from Tuglakabad.</p> <ul style="list-style-type: none"><li>● <b>Property</b> – Sheesh Pal has declared movable property of worth Rs. 71 lakh belonging to him and his wife. He also has agriculture land and property worth Rs. 12.65 crore.</li><li>● <b>Education</b> – Sheesh Pal has completed tenth standard. He studied at Madanpur Khadar Government School, Delhi.</li><li>● <b>Criminal Records</b> - There are no criminal cases registered against him.</li></ul>
  <p>BJP has declared Surendra Kumar as its candidate from the area.</p> <ul style="list-style-type: none"><li>● <b>Property</b> – Surendra Kumar has declared assets of Rs 18.9 lakh belonging to him and his wife. This includes his four vehicles worth 16.3 lakh rupees.</li><li>● <b>Education</b> –Surendra Kumar has a Bachelors Degree. He received his Bachelors in Commerce from Delhi University in 1987.</li><li>● <b>Criminal Record</b> - According to the affidavit given to the commission, there are no criminal cases registered against him.</li></ul>	  <p>BJP has declared Ramesh Bidhuri as its candidate from the area.</p> <ul style="list-style-type: none"><li>● <b>Property</b> – Ramesh Bidhuri has declared movable property worth Rs. 37 lakh belonging to him and his wife. He also possesses commercial and housing buildings worth Rs. 1 crore.</li><li>● <b>Education</b> – Ramesh Bidhuri holds a Bachelors Degree. He received his Bachelors in Commerce from Delhi University's Shaheed Bhagat Singh College in 1986.</li><li>● <b>Criminal Records</b> - There is a case pending against him for distribution of objectionable material.</li></ul>
  <p>BJP has declared Bramha Singh as its candidate from the area.</p> <ul style="list-style-type: none"><li>● <b>Property</b> – Bramha Singh has declared movable property of worth 11.7 lakh rupees belonging to him and his wife. He also has agriculture land and a house worth approximately Rs. 10 crore rupees.</li><li>● <b>Education</b> – Bramha Singh has not given any information regarding his education.</li><li>● <b>Criminal Records</b> - According to the affidavit given to the commission, there are no criminal cases registered against him.</li></ul>	  <p>BJP has declared Sahi Ram as its candidate from the area.</p> <ul style="list-style-type: none"><li>● <b>Property</b> – Sahi Ram has declared movable property worth Rs. 21.4 lakh belonging to him and his wife. He also possesses land and residential property worth Rs. 61.8 lakh.</li><li>● <b>Education</b> – Sahi Ram passed the Delhi Senior Secondary Examination in 1979.</li><li>● <b>Criminal Records</b> - There are cases pending against him of creating a nuisance with a dangerous weapon and forcibly obstructing a government employee in his duties.</li></ul>

Figure 3: Report Cards in The Hindustan Times on November 24, 2008

# Experimental Design

- Sample was drawn from ten jurisdictions with high slum density and where incumbent was standing for re-election
  - Unit of randomization was polling station; of a sample of 775 polling stations 200 (20 per jurisdiction) were selected for treatment
- Protocol in treatment polling stations
  - Three days before newspaper release, the NGO team visited households and gave them a pamphlet that described the importance of informed voting and told them when they will get the newspaper
  - Roughly ten days before the election, the newspaper carried report card on the jurisdiction candidates. The NGO team delivered a copy of the newspaper to every household in the polling station in the morning
  - Within 48 hours of newspaper delivery the NGO conducted a public reading of the newspaper
- Use data on polling station returns, observations of election, household survey, and how legislator actually spent the money

# Results - Overall

Table 4: Average Treatment Effects and Vote Buying

Treatment	Public					
	<i>Incumbent</i>	<i>Door to Door</i>	<i>Meeting or</i>	<i>Cash Bribe</i>	<i>Non-Cash</i>	<i>Bribe</i>
	<i>log(Turnout)</i>	<i>Vote Share</i>	<i>Campaign</i>			
Treatment	0.035** (0.016)	0.004 (0.011)	-0.034 (0.057)	0.029 (0.088)	-0.194** (0.091)	-0.028 (0.078)
Observations	775	775	61	61	61	61
Control Mean	0.575	0.463	0.969	0.719	0.625	0.648

## Results - Heterogeneity

- The point though is not how it affects voting overall. What should it affect?
- The key is it should be differential depending on incumbent performance, i.e. an interaction.
- Estimate

$$Y_{sj} = \alpha_j + \beta_1 T_{sj} + \beta_2 X_j \times T_{sj} + \varepsilon_{sj}$$

where  $X_j$  are legislator specific qualities

# Results - Heterogeneity

Table 5: Impact of Incumbent Performance on Turnout and Incumbent Vote Share

	Principal Component Analysis		Legislature		Committees		MLALADS Spending		MLALADS Slum Spending	
	<i>Incumbent Vote Share</i>		<i>Incumbent Vote Share</i>		<i>Incumbent Vote Share</i>		<i>Incumbent Vote Share</i>		<i>Incumbent Vote Share</i>	
	<i>log(Turnout)</i> (1)	<i>log(Turnout)</i> (2)	<i>log(Turnout)</i> (3)	<i>log(Turnout)</i> (4)	<i>log(Turnout)</i> (5)	<i>log(Turnout)</i> (6)	<i>log(Turnout)</i> (7)	<i>log(Turnout)</i> (8)	<i>log(Turnout)</i> (9)	<i>log(Turnout)</i> (10)
Treatment	0.046*** (0.016)	-0.005 (0.012)	0.020 (0.052)	0.006 (0.034)	0.026 (0.022)	-0.029 (0.019)	0.183 (0.146)	-0.039 (0.072)	0.131 (0.154)	0.009 (0.076)
Treatment * Incumbent Performance	-0.023*** (0.009)	0.019*** (0.007)								
Treatment * Legislature Attendance			0.002 (0.003)	-0.001 (0.002)						
Treatment * Any Questions Raised			-0.014 (0.033)	0.032 (0.026)						
Treatment * Committee Attendance					0.023 (0.053)	0.077** (0.039)				
Treatment * Total MLA LADS Spending (INR crore)							-0.029 (0.027)	0.008 (0.014)	-0.014 (0.030)	-0.005 (0.015)
Treatment * Total MLA LADS Spending in Slums									-0.015** (0.006)	0.014** (0.006)
Observations	775	775	775	775	775	775	775	775	775	775
Randomization Inference: p-values for Probability(Actual Coefficient = Estimated Coefficient)										
Treatment * Incumbent Performance	0.007	0.004								
Treatment * Legislature Attendance			0.303	0.221						
Treatment * Any Questions Raised			0.354	0.110						
Treatment * Committee Attendance					0.343	0.028				
Treatment * Total MLA LADS Spending (INR crore)							0.152	0.279	0.322	0.356
Treatment * Total MLA LADS Spending in Slums									0.007	0.009

## Bottom line from these papers

- These papers show that voters – when given information about politician's performance (e.g., corruption, showing up at work) – vote accordingly
- Do you view these as different from the papers on cash transfers? How?

## The final step

Ferraz and Finan (2011): "Electoral Accountability and Corruption: Evidence from the Audits of Local Governments"

- The final step in our analysis was whether politicians behave differently, given that voters reward them for good behavior
- In the model, this was the condition that they'd behave well if

$$B \Pr(\text{reelect} \mid a = 1) \geq B \Pr(\text{reelect} \mid a = 0) + b$$

- This paper answers this question by asking: are politicians less corrupt if they are up for re-election?
- Setting: same municipal elections in Brazil
- Empirical idea:
  - Mayors in Brazil have a two-term limit
  - Compare first-term mayors (who face re-election) with second term mayors (who don't). Convincing?

# Improving identification

- To gain better identification:
  - Compare second term mayors with first-term mayors who subsequently win re-election
  - Compare second term mayors who run for higher office
- Do these strategies help?

# Overall Results

TABLE 4—THE EFFECTS OF REELECTION INCENTIVES ON CORRUPTION

Dependent variable	Share of audited resources involving corruption							
	OLS (1)	OLS (2)	OLS (3)	OLS (4)	OLS (5)	OLS (6)	Matching (7)	Tobit (8)
Mayor in first term	-0.019 [0.009]**	-0.020 [0.010]**	-0.020 [0.010]**	-0.024 [0.011]**	-0.026 [0.011]**	-0.027 [0.011]**	-0.028 [0.010]**	-0.042 [0.012]**
R <sup>2</sup>	0.01	0.08	0.10	0.12	0.14	0.20	n/a	n/a
Observations	476	476	476	476	476	476	476	476
Mayor characteristics	No	Yes						
Municipal characteristics	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Political and judicial institutions	No	No	No	Yes	Yes	Yes	Yes	Yes
Lottery intercepts	No	No	No	No	Yes	Yes	Yes	Yes
State intercepts	No	No	No	No	No	Yes	Yes	Yes

## So what have we learned

- Basic agency model:
  - Voters vote to re-elect candidates based on signals of their performance
  - This induces politicians to behave better
- Evidence?
  - Voters more likely to vote to re-elect candidates if they personally receive government benefits
  - Voters more likely to re-elect candidates if they receive information that they are either working hard or likely to be good types
  - And politicians behave better (e.g. less corrupt) when they are up for re-election, as compared to when they face term limits

# Voting In Practice

- In our models of voting so far, we've considered voters who vote based on their preferences
  - Preferences for policies (Median voter model)
  - Preferences for politician quality (Agency models)
- But in practice – particularly in developing countries – people vote for other reasons. People's votes are influenced by
  - Clientalism What's this?
  - Money (vote buying)
  - Coercion (violence and intimidation)
- We'll discuss all of these in this lecture

## Why voters don't care that much.

- Selling your vote makes a lot of sense. Why?
- Suppose my utility function is

$$u_i = -\alpha (g - b_i)^2 + m$$

So I have single peaked preferences over the public policy ( $g$ ). I also care about money  $m$ .  $\alpha$  says how much I care about public policy relative to money

- Suppose there are two candidates with positions 0 and 1. (Let's assume we're not in the Median voter world, for whatever reason, so preferences are different)
- My bliss point is 0.
- The person supporting party 1 offers me  $p$  to vote for 1 instead of 0. Should I do it? How do I think about this?

# The Paradox of Voting

- The key question is: what's the probability my vote affects the outcome?
- Suppose that there are 1,000,000 other people voting in the election
- Suppose that the electorate is exactly balanced, so that each person votes for candidate 0 with probability  $\frac{1}{2}$
- My vote matters only if the votes are *exactly* tied.
  - That is, if it turns out that there are 500,000 votes for candidate 1 and 500,000 votes for candidate 0, then my vote gets to decide the election
  - If there are 499,998 for candidate 1 and 500,502 for candidate 0, then my vote doesn't matter, and I might as well sell it, collect the money  $m$ , and enjoy the fact that candidate 0 will win anyway

## Will I be the pivotal voter?

- It is very unlikely to be pivotal
- For example, if  $n = 1,000,000$  (e.g. House of Representatives) then the probability that there are exactly 500,000 votes for each candidate is

$$\begin{aligned}& \binom{n}{k} p^k (1-p)^{n-k} \\&= \binom{1,000,000}{500,000} \frac{1}{2}^{1,000,000} \\&\sim 0.0008\end{aligned}$$

or about 1 in 1200

## Will I be decisive?

- If the vote shares are even a little off, the probability gets much lower.
- So if people vote for candidate 1 with probability 0.51 then the probability votes are exactly equal is

$$\begin{aligned}& \binom{n}{k} p^k (1-p)^{n-k} \\&= \binom{1,000,000}{500,000} 0.51^{500,000} 0.49^{500,000} \\&\sim 1.06 \times 10^{-90}\end{aligned}$$

or about  $1 \times 10^{-90}$ , or, about 0

## Should I sell my vote?

- So should I sell my vote? If my utility function is

$$-\alpha(g - b_i)^2 + m$$

then I should sell my vote if

$$\alpha P(\text{pivotal}) < m$$

- In the case where I'm decisive with probability 0.0008, then I'll sell my vote if

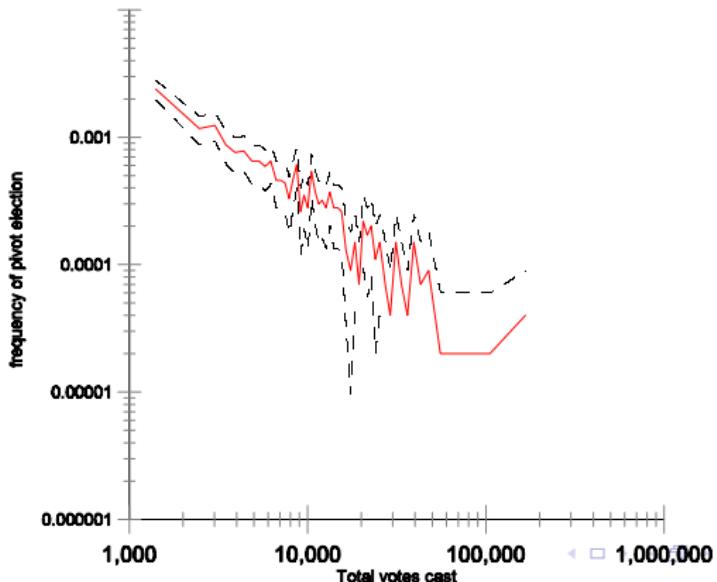
$$m > \alpha \times 0.0008$$

Plausibly, if I care a lot about policy, maybe I won't

- But in the case where I'm decisive with probability  $1.06 \times 10^{-90}$ , then yes I will sell my vote almost for sure!

# What are these probabilities in practice?

- What are these probabilities in practice?
  - In US presidential elections, on average the probability of is about 1 in 60,000,000
  - In US state elections, with much smaller districts, it's between 1 in 15,000 and 1 in 100,000



# The Paradox of Voting

- The paradox of voting is as follows. Suppose there is some cost to voting  $c$ .
  - E.g., it takes an hour of your time.
- By the same logic as before, you'll only vote if

$$\alpha P(\text{pivotal}) > c$$

- Suppose that  $c = \$10$  and  $P(\text{pivotal}) = 0.0000001$  (1 in 10 million).
- Then you'll only vote if  $\alpha > 100,000,000$ .
  - i.e. you would pay \$100,000,000 to have the outcome of the election be different
- For many elections, you may not care that much, and so the "paradox of voting" is that many people vote anyway
- Many theories try to explain why people vote anyway, but they all come down to the idea that I like the act of voting, not just voting itself

# Vote-buying

- Since the probability of being pivotal is so small, it's not surprising that people are often willing to sell their vote, and not surprising that candidates are willing to pay
- This is particularly likely to be a problem in developing countries where enforcement is weak
  - In Thailand in 1996,  $\frac{1}{3}$  of households were offered vote-buying, with an average offer of \$27
  - In Nicaragua in 2008, 24 percent of voters were offered cash or services in exchange for votes
  - In Paraguay, 23 – 31 percent of voters experienced vote-buying

## Secret ballot

- The challenge in vote buying is the secret ballot
  - Parties can observe whether you voted, but not who you voted for
  - So what is to stop you from telling candidate 1 that you'll vote for him in exchange for cash, taking the money, and voting for candidate
- Explanations:
  - *You buy turnout.* You can observe who voted. So identify voters who likely sympathize with your party and pay them to turn out.
  - *Reciprocity.* Some voters are "reciprocal" and return favors. So you buy those voters.

## Turnout buying vs. vote buying

- Suppose there are two parties, with fixed policy positions  $p_j$ .
- An individual  $i$  who votes for party  $j$  receives utility

$$U(b_i, c_i, p_j) = -|p_j - b_i| + \frac{1}{2} - c_i + m$$

if he chooses to vote for party  $j$  and 0 if he does not vote.

- Note that this utility function is different from the utility function we've used before. How?
  - Here the utility comes from the act of voting and who you vote for – it doesn't depend on who actually wins
  - Given that the probability of being pivotal is so small, this may be closer to the truth
  - (It's also easier to work with as a model)
  - I also made the single-peaked functions in absolute value, rather than quadratic, just to make things easier
- Within the electorate, the cost of voting  $c_i$  and policy preferences  $b_i$  are independently distributed *Uniform*  $[0, 1]$ .  $m$  is money.

# Candidates

$$U(b_i, c_i, p_j) = -|p_j - b_i| + \frac{1}{2} - c_i + m \text{ if vote, } 0 \text{ otherwise}$$

- Suppose that  $p_1 = \frac{1}{4}$  and  $p_2 = 1$ .
- Suppose there is no vote-buying. What happens in this model?
- Some people vote. Conditional on voting, you vote for your most preferred candidate. So conditional on voting, those with  $b_i < \frac{5}{8}$  vote for candidate 1 and those with  $b_i > \frac{5}{8}$  vote for candidate 2
- Some people just stay home. Who will stay home?
- Vote (as opposed to stay home) if

$$-|p_j - b_i| + \frac{1}{2} - c_i > 0$$

## Three Cases

$$U(x_i, c_i) = -|p_j - b_i| + \frac{1}{2} - c_i + m \text{ if vote, } 0 \text{ otherwise}$$

- Case 1:

- Suppose you have  $b_i < \frac{1}{4}$ . If you vote, you vote for candidate 1.
- You will vote if

$$-\left(\frac{1}{4} - b_i\right) + \frac{1}{2} - c_i > 0$$

Or if  $b_i - c_i + \frac{1}{4} > 0$

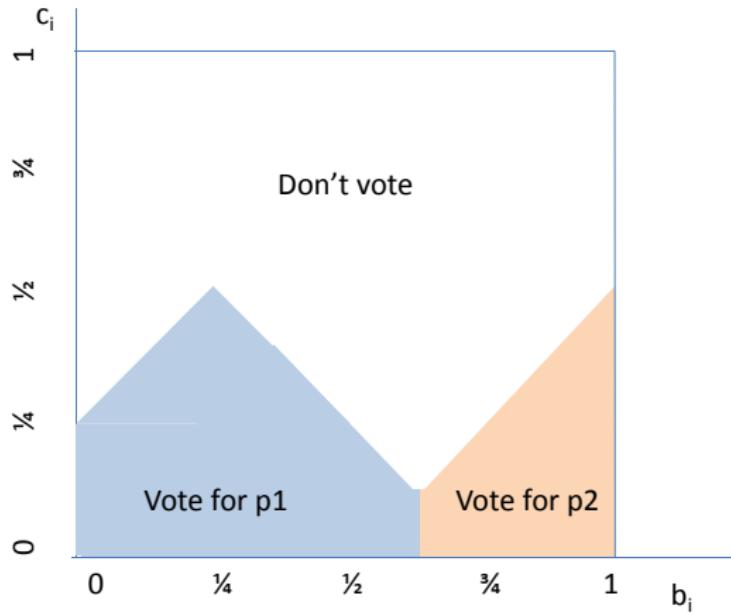
- This is a line with intercept at  $b_i = 0, c_i = \frac{1}{4}$  that peaks at  $b_i = \frac{1}{4}, c_i = \frac{1}{2}$

## Three Cases

$$U(x_i, c_i) = -|p_j - b_i| + \frac{1}{2} - c_i + m \text{ if vote, } 0 \text{ otherwise}$$

- Case 2:
  - For people between  $b_i = \frac{1}{4}$  and  $b_i = \frac{5}{8}$ , they will vote if
$$\frac{3}{4} - c_i - b_i > 0$$
  - This is a line that peaks at  $b_i = \frac{1}{4}$ ,  $c_i = \frac{1}{2}$  and slopes down to  $b_i = \frac{5}{8}$ ,  $c_i = \frac{1}{8}$
- Case 3:
  - For people between  $b_i = \frac{5}{8}$  and  $b_i = 1$ , they will vote if
$$b_i - c_i - \frac{1}{2} > 0$$
  - This is a line that peaks at  $b_i = 1$ ,  $c_i = \frac{1}{2}$  and slopes down to  $b_i = \frac{5}{8}$ ,  $c_i = \frac{1}{8}$

# Equilibrium with no vote-buying

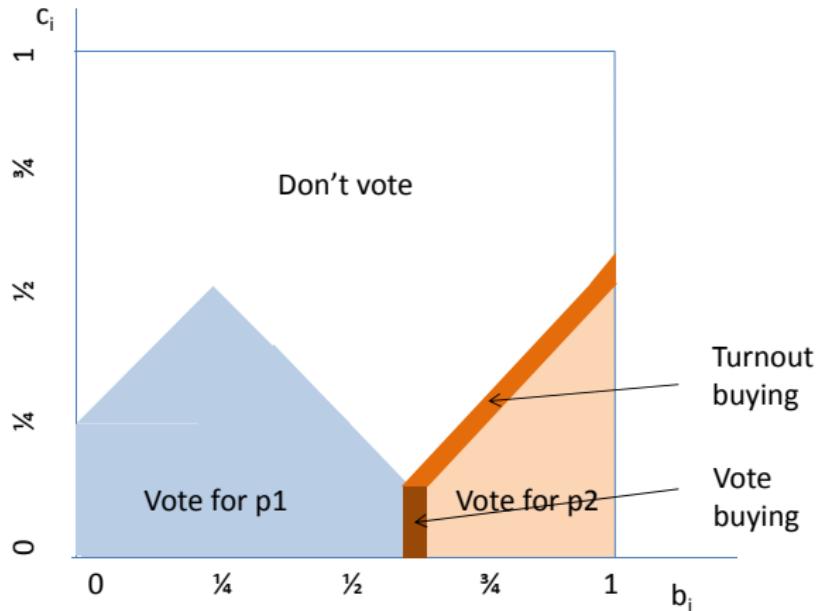


- Who will win?

## Vote buying

- Now suppose party  $p_2$  can buy votes, and they can verify that people voted for who they said they voted for. No secret ballot. Who will they buy?
- They will buy the people who are cheapest to convert. Two categories:
  - Vote buying: People who are voting for  $p_1$  but are close to indifferent – i.e., people who are voting and are close to  $b_i = \frac{5}{8}$
  - Turnout buying: People who prefer  $p_2$  but aren't bothering to vote.

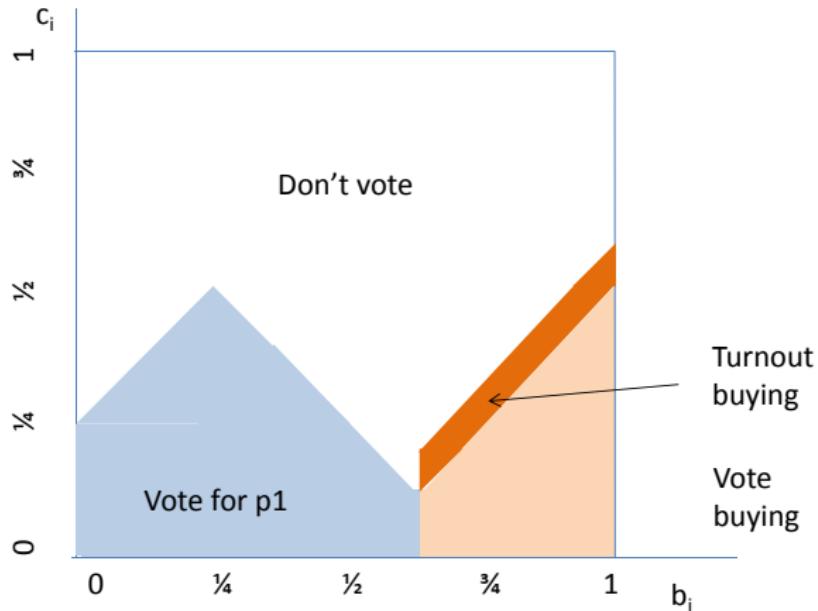
# Equilibrium with vote buying



## Secret ballot

- Now suppose party  $p_2$  can buy votes, but there is a secret ballot, so they cannot verify that people voted for who they said they voted for.  
Who will they buy?
  - Turnout buying only.

# Equilibrium with secret ballot



# Empirical evidence on turnout buying

Nichter (2008): "Vote buying or turnout buying?"

- Idea:
  - The idea of the model is that vote-buying would target marginal individuals
  - But turnout-buying would target the most committed individuals
    - If we extend the model so that which way you vote has some noise, then turnout voting will target the most committed voters first, since we know with greater likelihood which way they will vote
  - So examine the correlates of who reports vote-buying with strength of support for a party
- Setting: Argentina
- Results:
  - Strong supporters more likely to receive rewards than weak supporters
  - Reminiscent of how political machines in US worked as well

# Results

**TABLE 1. Logit Model Estimations of Electoral Mobilization Using Rewards**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Peronist Sympathizer	0.550 (0.220)*					0.496 (0.221)*	
Opinion of Peronists		0.440 (0.131)**					0.405 (0.138)**
Peronists "Very Good"			0.846 (0.402)*				
Peronists "Good"				0.544 (0.252)*			
Peronists "Very Bad"				-0.341 (0.351)			
1999 Peronist Voter					0.497 (0.217)*		
1995 Peronist Voter						0.609 (0.223)**	
1999 Nonvoter							-0.509 (0.329) -0.443 (0.354)
Income	-0.195 (0.074)**	-0.204 (0.073)**	-0.203 (0.073)**	-0.204 (0.071)**	-0.205 (0.071)**	-0.200 (0.071)**	-0.213 (0.074)**
Education	-0.212 (0.079)**	-0.214 (0.093)*	-0.211 (0.093)*	-0.211 (0.089)*	-0.239 (0.089)**	-0.205 (0.088)*	-0.201 (0.093)*
Housing Quality	-0.212 (0.131)	-0.155 (0.135)	-0.155 (0.134)	-0.236 (0.136)	-0.232 (0.139)	-0.229 (0.137)	-0.164 (0.141)
Log Population	-0.134 (0.049)**	-0.156 (0.052)**	-0.157 (0.052)**	-0.148 (0.053)**	-0.162 (0.054)**	-0.131 (0.053)*	-0.147 (0.055)**
Ballot	0.577 (0.225)*	0.547 (0.228)*	0.549 (0.228)*	0.558 (0.235)*	0.588 (0.244)*	0.559 (0.238)*	0.520 (0.242)*
Age	-0.015 (0.007)*	-0.014 (0.007)*	-0.014 (0.007)*	-0.018 (0.007)**	-0.020 (0.007)**	-0.018 (0.007)**	-0.017 (0.007)*
Gender	-0.158 (0.195)	-0.206 (0.200)	-0.205 (0.200)	-0.177 (0.202)	-0.141 (0.207)	-0.187 (0.202)	-0.253 (0.209)
Radical Sympathizer	-0.455 (0.371)	-0.530 (0.352)	-0.525 (0.351)	-0.540 (0.353)	-0.415 (0.363)	-0.454 (0.366)	-0.498 (0.356)
Constant	1.583 (0.746)*	0.913 (0.865)	1.704 (0.778)*	1.998 (0.750)**	2.156 (0.789)**	1.768 (0.767)*	1.079 (0.895)
Observations	1618	1521	1521	1525	1462	1525	1442

# Reciprocity

Finan and Schecter (2009): "Vote-buying and reciprocity"

- Idea: Test whether vote-buying is sustained through reciprocity
- Setting: Paraguay
- Measurement of reciprocity:
  - Survey which asks whether you'd put someone in a difficult situation if they did the same to you
  - Reciprocity in trust game. What is this?

# Trust games

- The trust game
  - Two players.
  - Player 1 gets  $\$X$ . Can decide to send  $s$  to player 2 and keeps  $X - s$  for himself.
  - Whatever is sent is tripled, so player 2 receives  $3s$ .
  - Player 2 can then return whatever he wants back to player 1 ( $r$ ) and keeps the rest ( $3s - r$ ).
- The socially efficient outcome is:  $s = X$ .
  - Why? That maximizes the total amount for both players.
  - If 2 could commit to return  $r = \frac{3}{2}s$ , then everyone would be better off by playing  $X = s$

## Trust games

- The Nash equilibrium is:  $s = 0$ .
  - Why?
  - Once player 2 receives the money, he has no incentive to send anything back. So he will always keep it all ( $r = 0$ )
  - Anticipating this, player 1 will never send anything
- In practice, usually  $s > 0$ .

# Reciprocity

- The authors measure reciprocity as follows:
  - They play the game.
  - Before finding out actual amount sent, they ask how much player 2 would return for different values of  $s$
  - If they are altruistic, they will always send back a lot
  - If they are reciprocal, they will send back a lot only if they were sent a lot. So  $\frac{\partial r}{\partial s} > 0$ .
  - They define reciprocity as the amount returned when  $s$  is high divided by the amount returned when  $s$  is low.

# Reciprocity

- Survey-based measurement of vote-buying:
  - 33 percent of respondents offered something in exchange for a vote (including "solving a problem")
  - 26 percent of respondents offered something in exchange for a vote (not including "solving a problem")
  - Mean value of transfer = 48 dollars (= 12 days agricultural wage)

# Results

TABLE III: VOTE-BUYING AND RECIPROCITY

Dependent variable:	Individual offered something in exchange for vote				Individual offered something in exchange for vote (as reported by the middlemen)	Demanded
	(1)	(2)	(3)	(4)		
Reciprocity	1.259 [0.512]**	1.318 [0.568]**	1.207 [0.640]*	1.294 [0.579]**	0.382 [0.223]*	-0.027 [0.358]
Observations	139	139	103	139	314	309
Mean of dependent variable	0.23	0.23	0.23	0.23	0.47	0.30
Main controls	N	Y	Y	Y	Y	Y
Controls for other personal traits	N	N	Y	N	N	N
Controls for social network	N	N	N	Y	N	N

**Notes:** For each dependent variable listed at the top of each column, the table reports the OLS estimates of the effects of reciprocity. Main controls include: gender, age, education level, number of family members eligible to vote, log of household wealth, whether the individual is a registered voter, believes the ballot is anonymous, has strong political sentiment, votes by party, supports the Colorado party, and number of registered voters in the municipality. In columns (5) and (6), the controls when available are based on the middlemen's responses, otherwise the controls are based on the individuals' responses. Columns (5) and (6) include middleman intercept and cluster at the middleman level. In addition to the full set of controls, the specifications include: in column (3) measures of altruism, risk, time preferences, trust, and understanding of games; in column (4), the degree, clustering coefficient, and contagion time from the social network. Robust standard errors are reported in brackets. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

# Intimidation

- The flip-side of vote-buying is violence and intimidation
  - General violence to diminish turnout
  - Specific intimidation at supporters of specific parties

# Intimidation

Hsieh, Miguel, Ortega, and Rodriguez (2009): "The Price of Political Opposition: Evidence from Venezuela's Maisanta"

- How large an economic effect can political intimidation have?
- Hsieh et al study an example from Venezuela:
  - Over 20% of the Venezuelan electorate signed a petition to remove Chavez from office
  - Chavez explicitly threatened that people who signed the petition would be made public and face retaliation
  - The Chavez government compiled the names of these people into a handy computer database that everyone could check
- Hsieh et al match the database to household surveys to examine the impact of signing the anti-Chavez petition

# Intimidation

Exhibit 2



# The Software

Exhibit 3

Santa Inés (Rev.06/07/2004) R.E.P. (Marzo-2004) ? X

Leeme Registros: 12,394,109

Ingrese su Número de Cédula:  SI FIRMO CONTRA EL PRESIDENTE (VALIDA) Fecha Nac:

Apellidos y Nombre:

Dirección:

>> Listar Cédulas de mi Centro de Votación << >> Florentino <<

Centro Votación:

Dirección:

Región:

Fallecido:  NO

Abstencionista:  NO

Misión RIBAS :  NO

Vuelvan Caras :  NO

# Results

- Employment falls by 1.5 percent, primarily in public sector

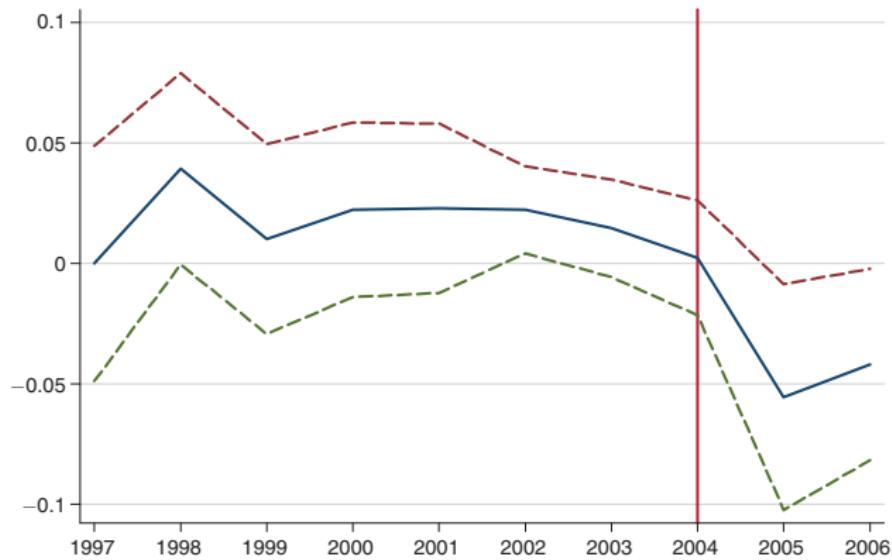


FIGURE 1. LOG EARNINGS OF MAISANTA (PETITION 3) SIGNERS (relative to nonsigners)

## Results

- Earnings fall by 5 percent – as much as 9 percent for those who signed the third and final petition

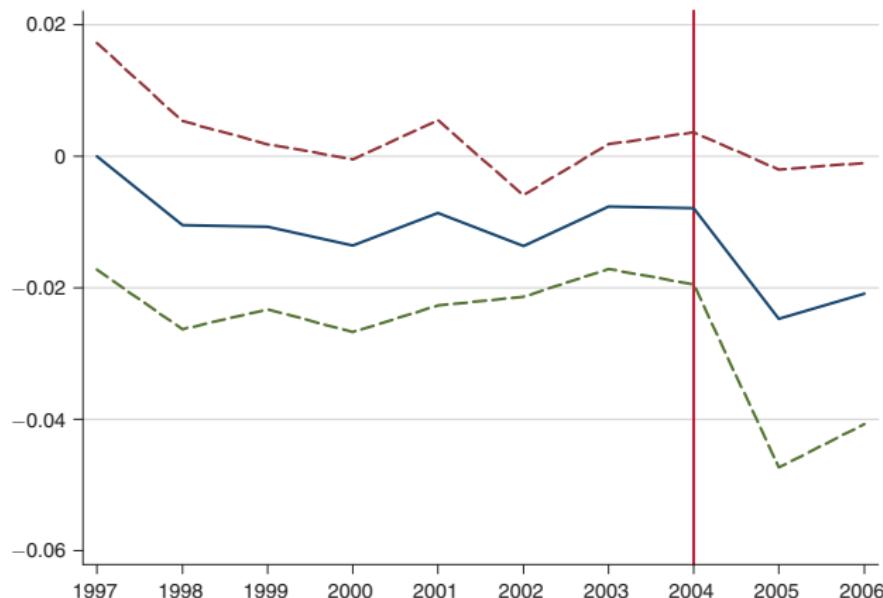


FIGURE 2. EMPLOYMENT OF *Maisanta* (PETITION 3) SIGNERS (*relative to nonsigners*)

# Clientelism

- What is clientelism? How does it differ from vote-buying?
- Clientelism is the *exchange of goods or services for political support.*
- Key difference: politician typically gives government resources, not cash
- Examples?
  - Government jobs
  - Infrastructure (e.g. new roads, irrigation, etc)
  - Beneficiary status for government programs
  - Use of government lands
  - Etc.
- Note: can't be things that are automatic benefits. Need to be able to condition it on political support.

# What makes clientelism work?

Larreguy, Marshall, and Trucco (2015): Breaking clientelism or rewarding incumbents?  
Evidence from an urban titling program in Mexico

- What's the idea of this paper?
- What's the type of clientelism that is supposed to be happening in this paper?
- Key idea of paper:
  - Many citizens in Mexico have informal property rights.
  - This makes them dependent on political leaders if they want to stay in their homes.
  - What is the effect of giving them formal property rights?
  - Two countervailing effects:
    - *Clientelism effect.* Makes people less dependent on politicians  $\implies$  reduces advantage of *future* incumbents.
    - *Agency effect.* But, people reward politicians who gave them this new right  $\implies$  more votes for *current* incumbents.
  - Estimate as a difference-in-difference.

# Results

Reduces incumbent vote share...

	(1)	(2)	(3)	Municipal vote share of mu (4)
Mean stock of voters with a title after first titling	-0.1077*** (0.0267)	-0.0843*** (0.0267)	-0.0739** (0.0301)	-0.0707* (0.0373)
Stock of voters with a title				-
State trends		X		
Municipality trends			X	
Ejido trends				X
Observations	22,477	22,477	22,477	22,477
R-squared	0.0446	0.0892	0.2333	0.2487

# Results

But implementing federal incumbent party does better...

Table 11: Heterogeneous effect of land titling, by federal alignment with the federal incumbent party at time of titling

	Vote share of federal incumbent in federal elections							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Mean stock of voters with a title after first titling	-0.0721*	-0.0481	-0.0468	-0.0143				
	(0.0408)	(0.0317)	(0.0319)	(0.0529)				
Mean stock of voters with a title after first titling × Fed. incumbent was fed. incumbent at titling	0.1389***	0.1274***	0.1082***	0.1158**				
	(0.0376)	(0.0327)	(0.0413)	(0.0585)				
Stock of people with a title					-0.0357	-0.0279	-0.0178	0.0256
					(0.0369)	(0.0297)	(0.0289)	(0.0415)
Stock of people with a title × Fed. incumbent was fed. incumbent at titling					0.1431***	0.1318***	0.1144**	0.1186*
					(0.0414)	(0.0364)	(0.0464)	(0.0612)
State trends	X				X		X	
Municipality trends		X				X		X
Ejido trends			X				X	X
Observations	12,602	12,602	12,602	12,602	12,602	12,602	12,602	12,602
R-squared	0.4492	0.5307	0.6134	0.6334	0.4503	0.5317	0.6143	0.6349
Number of Precincts	4,153	4,153	4,153	4,153	4,153	4,153	4,153	4,153
F-statistic	3.666	6.976	4.099	7.969	7.427	6.857	3.980	6.715
P-value	0.0561	0.00854	0.0435	0.00496	0.00667	0.00912	0.0466	0.00987

## Summing up

- In practice there are many reasons why people don't vote based just on their preferences:
  - For money: vote-buying
  - For fear of punishment: intimidation
  - For government benefits: clientalism