# Fiscal Policy and Inequality

## 17. Elections as Selection and Incentive Device

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# Political Agency Models

- We will look at political agency models with a focus on applications
- At the heart of agency models: principal-agent relationship between citizens and government
  - The principals are the citizens/voters
  - The agents are politicians/bureaucrats
- Incentive problems arise because citizens have delegated authority to policymakers.
- There are two main problems
  - Moral hazard (incentives): Policymakers may act opportunistically.
  - Political selection: Policymakers may differ in their quality or motivation.
- Political agency models are motivated by the idea that elections serve to address these problems

# Outline

- Theory:
  - A basic agency model that incorporates both selection and incentives
- 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? (e.g., by becoming more honest)
    - Can we distinguish incentives from selection in practice?

# Politician choices and incentives

- 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
- While in office (before re-election), politician has a choice of actions, $a$, that can take two values, 0 or 1.
  - $a = 0$ is preferred by the politician. He gets benefit $r$ from choosing $a = 0$.
- $a = 1$ is preferred by the voters. Politician gets no benefit from choosing $a = 1$.
- 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

# Election incentives

- Pr(reelect|$a$) is the probability of re-election conditional on action $a$.
- If voters reward politicians for good actions, then

$$\Pr(\text{reelect}|a=1) \geq \Pr(\text{reelect}|a=0)$$

- An opportunistic politician will choose $a=1$ when the (expected) benefit of doing so is higher than that of choosing $a=0$:

$$B[\Pr(\text{reelect}|a=1)] \geq B[\Pr(\text{reelect}|a=0)] + r$$

  - This rewrites as

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

- The greater the temptations of slacking off in office (the greater the $r$), the more likely he will choose the low action
- What happens if politicians cannot run for reelection (term limits)? Then we get low action for sure.
  - This is one empirical test we will use

# Types of politicians

- 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, that is, choose $a = 1$ when

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

# Model Timing: Two Periods

- First period.
  - Politician chosen at random from the distribution of candidates.
    - Good with probability $\alpha$.
    - Bad with probability $\beta$.
    - Opportunistic with probability $1-\alpha-\beta$.
  - Politician chooses an action $a$.
  - Voters observe the action and 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 (politician has binding term limit).
  - Good types choose $a=1$.
  - All else chose $a=0$. (Why?)

# How do voters decide?

- Voters want to choose good politicians, as they are the only ones who will choose $a = 1$ in the second period.
- Since good types always choose $a = 1$ in the first period, and bad types always choose $a = 0$, if I see $a = 1$ it's more likely he's the good type, and if I see $a = 0$ it's more likely he's the bad type
- So the bottom line is:
  - Vote to re-elect if $a = 1$, since there's a higher chance he's a good type (and zero chance he's a bad type).
  - Vote not to re-elect if $a = 0$, since there's a higher chance he's a bad type (and zero chance he's the good type).
- Impact on opportunistic type:
  - Given this voter strategy, opportunistic type will choose $a = 1$ (the good action) in the first term, in order to be reelected and get the office rewards in the second term.

# Interpretation

- This model shows how elections serve both a selection function and an incentive function:
  - **Selection**: since voters select for good types, good types are more likely to be in office and bad types are less likely to be in office.
  - **Incentives**: since voters reward the good action, opportunistic types are more likely to choose the good action.

# Political Agency in Practice

- We will examine several aspects of the agency idea.
- From the voters'side:
  - Do voters reward politicians who appear to do better?
    - That is, do voters reward politicians when they directly get benefits from government?
    - 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?
- What are the policy implications?

# Do voters reward politicians who appear to do better?

**De La O (2012): Do Conditional Cash Transfers Affect Electoral Behavior? Evidence from a Randomized Experiment**

- Setting
  - Mexico
  - A program called Progresa gives cash to women in exchange for enrolling their children in schools and health services
- Empirical strategy
  - The program was run as a randomized experiment
  - 505 villages were randomly treated (i.e., received benefits) either 21 months or 6 months before the 2000 Mexican presidential election
  - Examine the impact on electoral turnout and vote for the incumbent

# Specification

- They run the regression

$$\Delta y_i = \theta + \beta \text{treatment}_i + \varepsilon_i$$

where treatment is a dummy variable that is 1 if you received the program for longer.

  - Is $\beta$ consistently estimated? Why or why not?

# Turnout Results and Vote Share

TABLE 3 Impact of Progresa on Turnout and Party Vote Shares

| ITT Estimates of the Assignment to Early versus Late Treatment | (1) Turnout | (2) PRI | (3) PAN | (4) PRD |
|---|---|---|---|---|
| Treatment | 0.053* | 0.037** | 0.007 | 0.002 |
| | (0.030) | (0.015) | (0.012) | (0.014) |
| Constant | 0.580*** | 0.233*** | 0.191*** | 0.166** |
| | (0.172) | (0.086) | (0.072) | (0.074) |
| Controls | yes | yes | yes | yes |
| # Villages fixed effects | yes | yes | yes | yes |
| Observations | 417 | 417 | 417 | 417 |
| R-squared | 0.116 | 0.288 | 0.197 | 0.318 |
| **IV Estimates of Early Progresa Coverage** | **Turnout** | **PRI** | **PAN** | **PRD** |
| Early Progresa | 0.156* | 0.108** | 0.021 | 0.006 |
| | (0.087) | (0.045) | (0.035) | (0.040) |
| Constant | 0.702*** | 0.414*** | 0.146** | 0.140** |
| | (0.154) | (0.080) | (0.069) | (0.068) |
| Controls | yes | yes | yes | yes |
| # Villages fixed effects | yes | yes | yes | yes |
| Observations | 417 | 417 | 417 | 417 |
| R-squared | 0.095 | 0.275 | 0.192 | 0.317 |

- Turnout increased in places that received the program longer
- Vote share for the incumbent party (PRI) increased in places that received the program longer

# Bottom line of this paper

- People reward politicians for channeling support to them
  - Particular impact through turnout.
- Thinking back to the model, this says that

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

- If this is true, then what are the implications for politician behavior?
  - Suggests incumbents will work harder to get programs through $(a = 1)$
  - But opposition parties may try to block these types of programs because they are too popular!
    - This has happened in Indonesia.
  - Suggests incumbents will target programs to those people who are likely to be marginal in turnout
  - Politicians tend to rebrand programs to try to get credit
    - Progresa was rebranded Oportunidades by the new administration – same program, new name

# Happiness and Incumbent Vote Share

- Bagues and Esteve-Volart, *Journal of Political Economy* (2016):
  - Incumbent politicians tend to receive more votes when economic conditions are good.
  - Exploit the exceptional evidence provided by the Spanish Christmas Lottery.
  - Winning tickets are typically sold by one lottery outlet, winners tend to be geographically clustered.
  - Incumbents receive significantly more votes in winning regions.
  - Temporary increase in happiness making voters more lenient toward the incumbent, or with a stronger preference for the status quo.

# Competence

- A second idea we had in the model is that there are different types of politicians
  - Good (competent, honest) types
  - Bad (incompetent, dishonest) types
- In the model, when voters learn about a politician's type, 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
  - 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 (information is more likely to get out)

# Re-Election Rates by Corruption Level, with/without audit

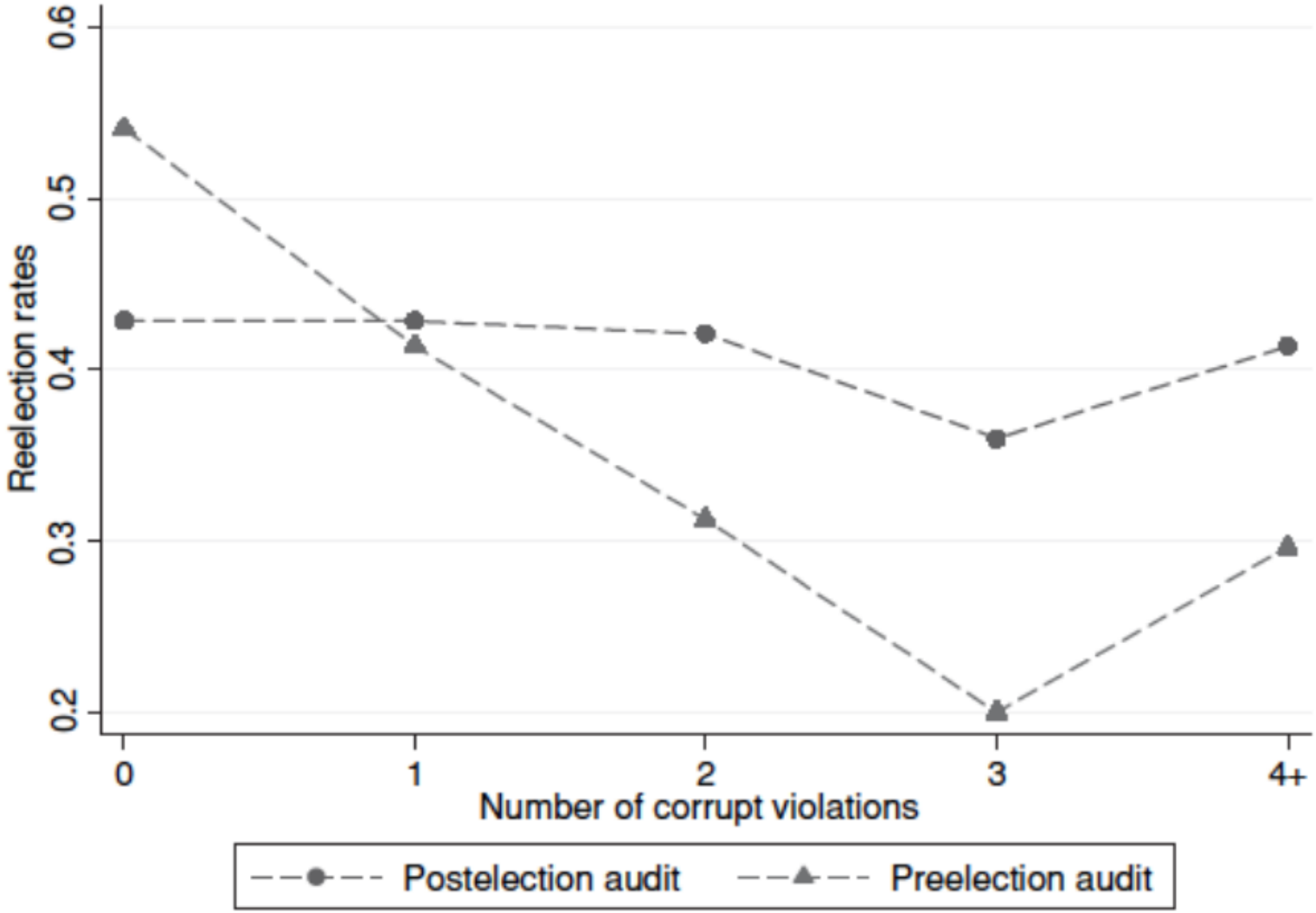



FIGURE III
Relationship between Reelection Rates and Corruption Levels

# Bottom line of this paper

- Voters respond when given information about politician's performance
- Do you view this as different from the paper on cash transfers?
  - How?

# The Next Step: How Politicians Respond

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

- The final step in our analysis:
  - Do politicians behave differently given that voters reward them for good behavior?
- In the model, this was the condition that they'd choose the good action:

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

- This paper asks: 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?

# 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]** |
| $R^2$ | 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 | Yes | Yes | Yes | Yes | Yes | 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 |

- First-term mayors (who can run for re-election) are less corrupt than second term mayors (who cannot run for re-election)

# Bottom Line: Ferraz and Finan (2011)

- This paper shows that politicians respond to re-election incentives, as they behave better when they can run for re-election
- Highlights role of elections in achieving accountability

# Do politicians' wages affect principal-agent problems?

- We will explore why politicians' wages might matter, both in theory and evidence
  - Selection: high wages may motivate different types of people to run for office
  - Incentives: high wages may reduce motivation to be corrupt
- Politicians aren't paid very much
  - U.S. President is paid $400,000 per year to run a government with a budget of over $2 trillion. U.K. prime minister receives £149,440; leaders in other European countries even less.
  - U.S. Governors are paid around $85,000-$160,000 to manage budgets in the $5 - $150 billion range
  - By contrast, CEOs who manage billion-dollar companies are paid on the order of $5 million - $10 million
- Singapore is the main exception:
  - Pay is $1.7 million USD, explicitly set to be comparable to top private-sector salaries, as a way of signaling high ability

# Wages and Selection

- Suppose that people in the population have an outside wage $v_i$ and get intrinsic-motivation utility from office, $u_i$.
- They will choose to become politicians if

$$w + u_i > v_i$$

- Suppose that:
  - within the interested group, one person is randomly selected to become a politician
  - we care about some combination of $v_i$ (correlated with competence) and $u_i$ (correlated with idealism, public service)

# Selection effect of wage increase

- What happens if we increase $w$ ? Is this good or bad?
  - Depends on the correlation of $u_i$ and $v_i$ .
  - Do people with high private-sector returns tend to have higher or lower intrinsic motivation?
  - This is an empirical question; we'll have to look at the data.

# Empirical Evidence

**Ferraz and Finan 2011, Motivating Politicians: The Impacts of Monetary Incentives on Quality and Performance**

- Why is estimating the relationship between salaries and performance hard?
  - Usual omitted variable problems
  - Politicians set their own salaries
  - A source of exogenous variation is needed
- Setting:
  - Municipal legislators in Brazil, 98% of whom are part time
  - Regression discontinuity design : salary caps are a function of municipal size
  - Use the cap to explain salaries (instrumental variables)

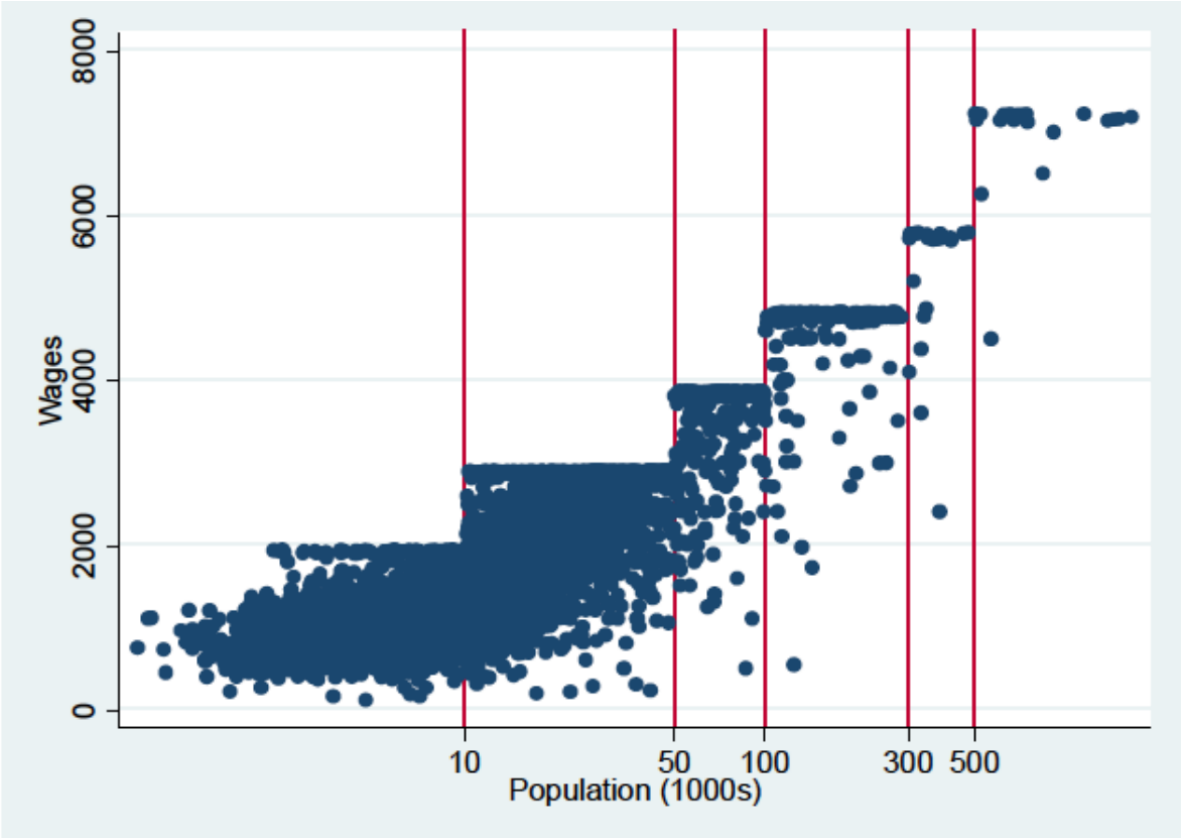
# Politican Wage caps in Brazil

Table 1. Constitutional Amendment No. 25, 2000

| Population bracket | Cap on salary as a percentage of state legislators salary | Value of maximum allowed salary in 2004 | Cap on legislative spending as a proportion of revenues | Average legislative spending as a proportion of revenues | Cap on salary spending as a proportion of legislative spending |
|---|---|---|---|---|---|
| 0 to 10,000 | 20% | 1927.1 | 8% | 3.6% | 75% |
| 10,001 to 50,000 | 30% | 2890.6 | 8% | 3.0% | 75% |
| 50,001 to 100,000 | 40% | 3854.2 | 8% | 2.8% | 75% |
| 100,001 to 300,000 | 50% | 4817.7 | 7% | 2.6% | 75% |
| 300,001 to 500,000 | 60% | 5781.2 | 6% | 2.7% | 75% |
| 500,000 plus | 75% | 7226.6 | 5% | 2.6% | 75% |

- Constitutional amendment establishes salary caps for municipal legislators that depend on local population

# First Stage: Population Cutoffs and Wages




- Actual wages of legislators vary with the population of the municipality

# 2SLS Estimation

- Estimate the following IV model:

$$w_i = \alpha_0 + \alpha_1 f_i + g(P_i) + \mu_i$$

$$y_i = \beta_0 + \beta_1 w_i + g(P_i) + \varepsilon_i$$

controlling for the different population cut-offs $f_i$ and a flexible function $g(\cdot)$ of population $P_i$

# Salaries Increase Effort

Table 5: The Effects of Wages on Legislative Performance

| Dependent variable: | Number of Bills Submitted | | Number of Bills Approved | | Functioning Commission | | Public events | |
|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| Panel A: IV estimates | | | | | | | | |
| Wages | 0.807 | 0.672 | 0.584 | 0.515 | 0.065 | 0.062 | 0.074 | 0.06 |
| | [0.238]*** | [0.230]*** | [0.125]*** | [0.122]*** | [0.025]*** | [0.026]** | [0.033]** | [0.034]* |
| Panel B: Reduced-form estimates | | | | | | | | |
| Salary caps | 0.72 | 0.621 | 0.487 | 0.429 | 0.043 | 0.04 | 0.034 | 0.026 |
| | [0.220]*** | [0.211]*** | [0.109]*** | [0.105]*** | [0.020]** | [0.021]* | [0.029] | [0.029] |
| R-squared | 0.18 | 0.2 | 0.15 | 0.17 | 0.02 | 0.03 | 0.03 | 0.04 |
| Municipal characteristics | No | Yes | No | Yes | No | Yes | No | Yes |
| Observations | 3544 | 3544 | 3544 | 3544 | 5093 | 5093 | 5093 | 5093 |

- In municipalities with higher legislator wages, legislative performance is higher

# Evidence of Positive Selection

Table 7. The Effects of Wages on Political Selection

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
|---|---|---|---|---|---|---|---|---|---|
| Panel A: Dependent variable | Years of schooling | No formal schooling | Some primary school | Primary school | Some high school | High school | Some college | College | High skilled occupation |
| Wages | 0.495 [0.155]*** | -0.023 [0.008]*** | -0.016 [0.015] | -0.014 [0.012] | 0.009 [0.008] | 0.004 [0.016] | 0.021 [0.007]*** | 0.017 [0.013] | 0.043 [0.018]** |
| Observations | 5091 | 5093 | 5093 | 5093 | 5093 | 5093 | 5093 | 5093 | 5093 |
| Panel B: Dependent variable | Average terms of experience | 1 term of experience | 2 terms of experience | 3 terms of experience | 4 terms of experience | 5 terms of experience | 6 terms of experience | 7 terms of experience | Male |
| Wages | 0.154 [0.056]*** | -0.047 [0.019]** | -0.007 [0.015] | 0.03 [0.012]** | 0.021 [0.008]** | 0.005 [0.005] | 0.003 [0.002] | 0.000 [0.003] | -0.005 [0.010] |
| Observations | 5093 | 5092 | 5092 | 5093 | 5092 | 5093 | 5093 | 5093 | 5093 |
| Municipal characteristics | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

# Disentangling Selection from Incentives

- The previous study can't really separate selection from incentives:
  - Do legislators perform better when they get paid more? (incentives)
  - Do we get better legislators when we pay more? (selection)
- I have some work on judge salaries trying to disentangle this.

# The case of judge salaries: Incentives

- Ash and MacLeod (2015) look at impacts of changing the salary on appellate court judges in U.S. states:
  - Panel data approach, looking at the within-judge impact to isolate incentive (as opposed to selection) effects.
  - Increases in salaries are associated with higher-quality work product: the decisions are cited more often by later judges.
- Consistent with a positive incentive effect of salaries, reducing the need to engage in outside activites that distract from judging.

# The case of judge salaries: Selection

- Ash and MacLeod (2017) look at the selection effect of salary changes:
  - Compare judges working on the same court at the same time (so they face the same incentives), but look at variation in the real salaries at the time they joined the court.
  - Judges selected under higher salaries actually have *lower* work quality
    - consistent with a lower intrinsic motivation for judges motivated by money
- Shows that the positive-selection effect from Ferraz and Finan (2011) is domain-specific.