# The Union-Politics Pipeline

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Luiz Inácio Lula da Silva

Metalworker

President of Brazil

Pedro Castillo

Teacher

President of Peru

Lech Wałęsa

Electrician

President of Poland

Ronald Reagan

Actor

President of the US

Bob Hawke

Union organizer

Prime Minister of Australia

# Motivation

- Unions can serve as a stepping stone into politics
  - Training ground for developing political leadership [Sojourner (2013)]
  - Mobilization network to boost electoral support [Larreguy et al. (2017)]

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  - Who selects into union leadership? How do they compare to the average worker?
  - Which leaders transition to politics? How do they compare to regular politicians?

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- Yet the role of unions as suppliers of politicians remains largely unknown
  - Who selects into union leadership? How do they compare to the average worker?
  - Which leaders transition to politics? How do they compare to regular politicians?
- Unclear whether unions have any impact on quality and/or other relevant characteristics of politicians
  - The lack of politicians with working-class backgrounds has been cited as a reason for policies that exacerbate inequality [Carnes (2016)]
  - Little evidence on institutions that enable democracies to become inclusive meritocracies [Dal Bó et al. (2017)]

# This paper

We study the role of union leadership as a pipeline into politics in Brazil.

1. **(Descriptive)** Combine rich data on union leadership, elections, and work histories to characterize the union-politics pipeline in detail

2. **(Theoretical)** Formalize a model of selection into politics where union leadership can play two roles
   - A *gateway* into politics for career unionists
   - A *springboard* into politics for aspiring politicians

3. **(Impact of weakening unions)** Exploit a 2017 reform that weakened unions to
   - Estimate causal effects on electoral outcomes of union politicians
   - Estimate the impact on selection margins along the pipeline

# Contribution to the literature

- Selection into unions and politics
  - e.g., Mattozzi and Merlo (2008); Sojourner (2013); Kim and Margalit (2017); Dal Bó and Finan (2018); Hadziabdic and Baccaro (2020); Dal Bó et al. (2017, 2023)
  - $\Longrightarrow$ **rich description of both selection processes and their interaction**
- Role of unions in political inequality
  - e.g., Weil (1999); Pontusson and Rueda (2010); Teitelbaum (2010); Ahlquist and Levi (2013); Rosenfeld (2014); Larreguy et al. (2017); Feigenbaum et al. (2018)
  - $\Longrightarrow$ **focus on union leadership as a margin of interest by supplying politicians**
- The economics of union representatives
  - e.g., Boudreau et al. (2023); Corradini et al. (2023); Jäger et al. (2023)
  - $\Longrightarrow$ **connect to political careers in the context of a young democracy**

# Outline

# Outline

# Unions in Brazil

- Union system with uncontested representation rights
- Universal coverage where represented workers are forced to contribute
  - Union density ($\approx 16\%$) much lower than CBA coverage ($> 50\%$)
  - Mandatory contributions removed with 2017 Labor Reform
- Union elections are democratic but prone to opacity and capture
  - Union has autonomy to set board structure, term limits, and voting eligibility
  - Nearly all union elections report a single slate in the ballot

# Politics in Brazil

- Elections occur every 4 years for the following political offices
  - Federal: president (4yr, majority); senator (8yr, plurality); deputy (4yr, PR)
  - State: governor (4yr, majority); assembly member (4yr, PR)
  - Municipal: mayor (4yr, majority/plurality); councilor (4yr, PR)

- Unrestricted multiparty system with 5 major parties: one of them founded by union leaders, i.e., Workers' Party (PT)

- Working class politicians and unions
  - 10.4% of Congress members started their political careers in unions [USAL 2003]
  - 4.1% of Brazil's 1999 *Câmara dos Deputados* was working class ($<$ 2% in US House) 86% of them had been union leaders [Rodrigues (2009); Carnes (2011)] Examples

# Main data sources

Use unique identifier (CPF) to track individuals across three data sets:

1. Union registry (CNES: 2004-2022)
   - Winning slate for all union elections: leader's CPF, title in union board
   - Union characteristics: rural/urban, (con)federation, municipalities
2. Election results (TSE: 1998-2022)
   - Election results with information on every candidate running for political office
   - Candidate's CPF, vote share, party, campaign contributions/spending
3. Linked employer-employee data (RAIS: 1985-2018)
   - Universe of formal sector job spells (establishment-level: industry, location)
   - Worker's CPF, gender, age, education, earnings, industry, occupation, coworkers

... *don't observe* union membership, losing candidates for union leadership, or psychological data on individuals

# Outline

# Sample construction

- Generate origin-destination event pairs (2004-2022), where events are either
  - Union events: elected as union leader [exclude rural unions and stand-in roles]
  - Politics events: run for public office [sample covers 5 election cycles]
- Incorporate RAIS data to produce three broad samples
  - Pipeline: match origin events to RAIS using an individual's closest pre-event job spell
  - Co-workers: people in the same establishment-year as the pre-event job spell
  - Population: 2% random sample stratified by year, municipality, and establishment
- Key covariates: white-collar, education level, earnings z-score

# Events in the pipeline

| | | | Destination event | | |
|---|---|---|---|---|---|
| Origin event | Count | Share | Out | Stay | Switch |
| Union | 332,881 | (25.1%) | 161,834 (48.6%) | 156,435 (47.0%) | 14,612 (4.4%) |
| Politics | 993,621 | (74.9%) | 626,350 (63.0%) | 347,047 (34.9%) | 20,224 (2.0%) |
| Total | 1,326,502 | (100.0%) | 59.4% | 38.0% | 2.6% |

Three times more politics events than union events

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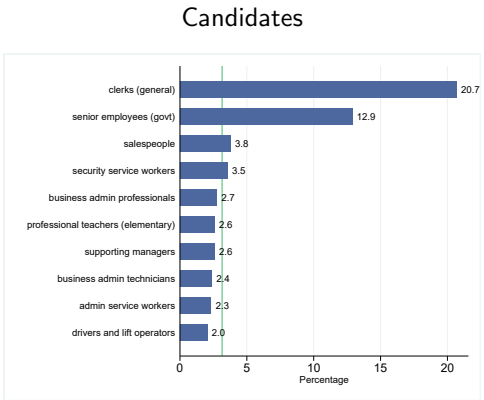
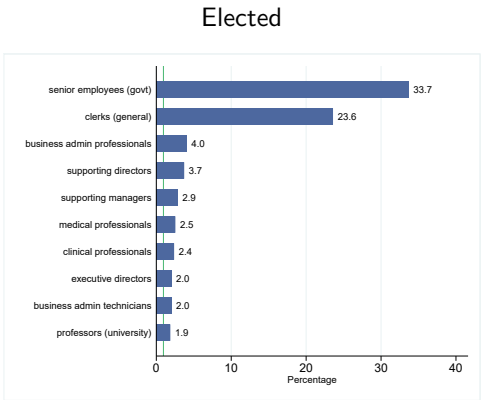
Switch rates from union-to-politics (UP) are double that from politics-to-unions (PU)
Union politicians get elected w.p. 9.2% Descr Heterog

# Politicians by occupation: state/federal elections (2014)




Union politicians make up 3.15% of candidates (behind **two** blue collar occupations) and 0.95% of elected (behind **zero** blue collar occupations). Municipal

# Selection along the pipeline

| | | Unions | | Union-to-politics | | Politics | |
|---|---|---|---|---|---|---|---|
| | Population | Coworkers | Leaders | Ran | Elected | Ran | Elected |
| White collar | 0.47 | 0.58 | 0.61 | 0.64 | 0.70 | 0.60 | 0.72 |
| | (0.50) | (0.49) | (0.49) | (0.48) | (0.46) | (0.49) | (0.45) |
| College | 0.15 | 0.24 | 0.24 | 0.22 | 0.22 | 0.18 | 0.21 |
| | (0.35) | (0.42) | (0.42) | (0.42) | (0.42) | (0.38) | (0.40) |
| Earnings z-score | 0.07 | 0.24 | 0.27 | 0.06 | 0.15 | -0.05 | 0.26 |
| | (1.03) | (1.20) | (1.20) | (1.17) | (1.23) | (1.24) | (1.37) |
| Observations | 16,709,785 | 1,044,184 | 332,881 | 14,612 | 1,345 | 993,621 | 133,736 |

WC Educ Z-score P UP

Union leaders are positively selected from the population

# Selection along the pipeline

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Union leaders still positively selected relative to coworkers

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Politicians are negatively selected (driven entirely by municipal elections)

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Electoral process screens for a positive selection of elected politicians

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WC Educ Z-score P UP

Union leaders are slightly more positively selected than elected politicians (and also more likely to be blue collar)

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Negative selection among union leasers into politics

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WC Educ Z-score P UP

Unions contribute a more positively selected set of people to the candidate pool

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WC Educ Z-score P UP

In terms of people in office, union politicians are simply lower valence

# Taking stock of the descriptives

- A decent number of union leaders transition into politics
  - Comprise 4.4% of observed union events
  - Union politicians make up around 1% of election winners
- While there is positive selection into union leadership, among these leaders there is negative selection into politics
  - Union leaders have slightly higher valence than elected politicians
  - Elected union politicians have lower valence than elected politicians

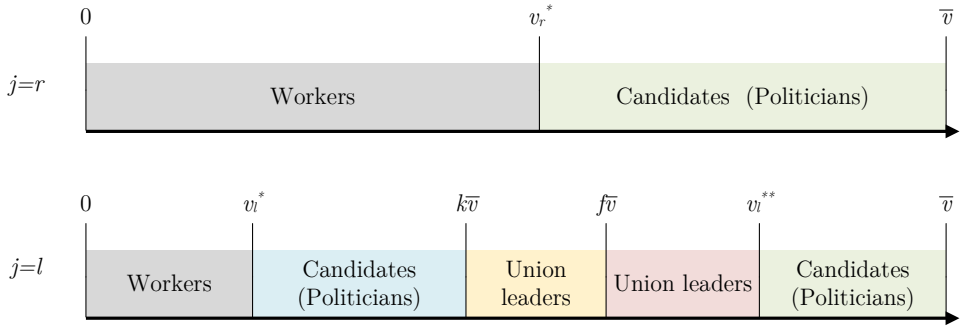
# Outline

# Overview

- Extend two-party $j \in \{r, l\}$ probabilistic voting model (Dal Bó and Finan, 2018)
  - *Two-periods* with *sequential decisions* on entering politics and unions
  - Self-selection based on valence $v_j \sim \mathcal{U}[0, \bar{v}]$ and voter behavior $s_j(\cdot, R, L)$
- Assumes **positive selection** by having the costs of becoming a union leader $e(v_j)$ and of running for political office $c(v_j)$ decrease with valence
- Guarantee **career unionists**, i.e., $v_l \in (k\bar{v}, f\bar{v})$ always select into unions
- Obtain three types of union politicians
  1. Exceptional unionists for whom politics becomes worthwhile
  2. Marginal unionists who dropout due to low payoff at unions
  3. Aspiring politicians who see unions as a springboard into politics

Details Decisions

# Selection thresholds in valence

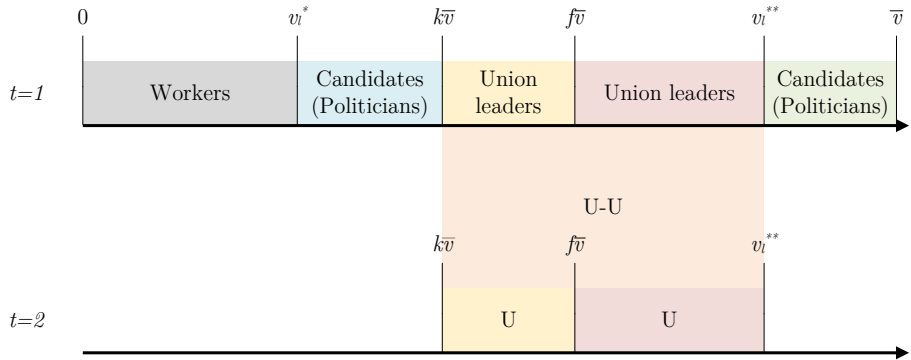



- Increase in group cohesion $(L \uparrow) \implies v_l^* \downarrow, v_l^{**} \downarrow$
- Decrease in union payoffs $(k \uparrow) \implies k\overline{v} \uparrow, v_l^{**} \downarrow$

Formulas

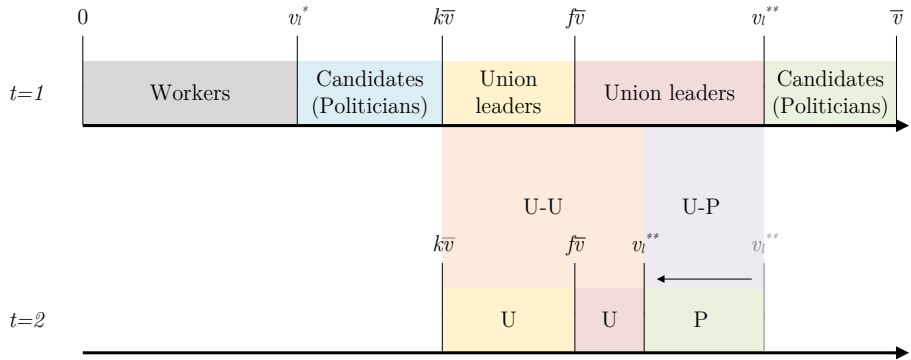
# 1) Union politicians from career unionists

- If nothing changes from/about the union experience, there are no dynamics to make union leaders transition into politics



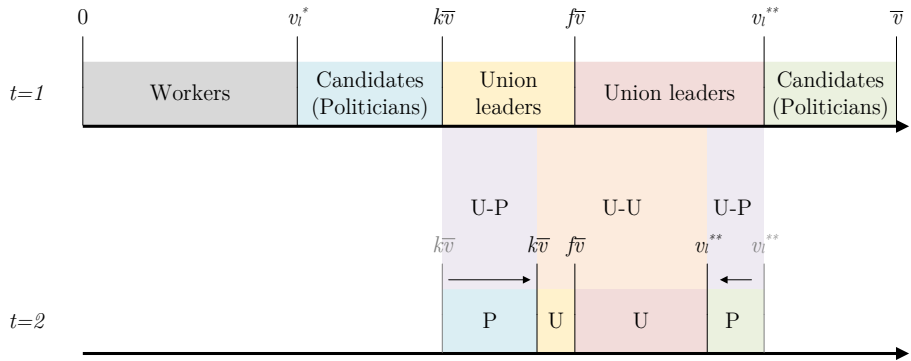
# 1) Union politicians from career unionists

- If having union leadership experience boosts group cohesion ($L \uparrow$), transitioning to politics becomes worthwhile for exceptional unionists



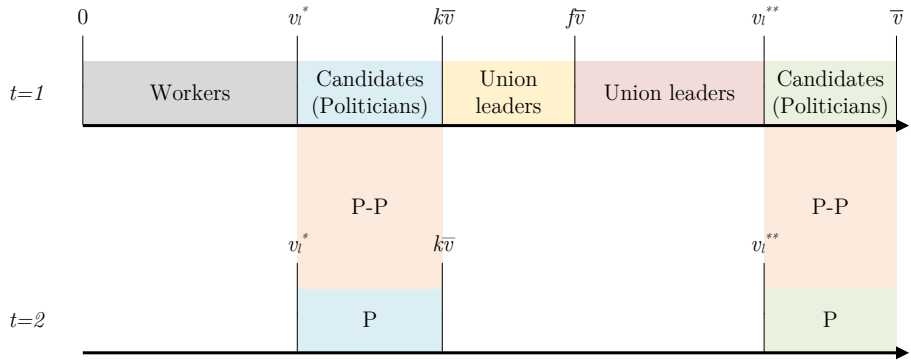
# 1) Union politicians from career unionists

- If the payoffs from being in a union leader decrease ($k \uparrow$), marginal unionists dropout and transition to politics (also see some exceptional unionists transition)



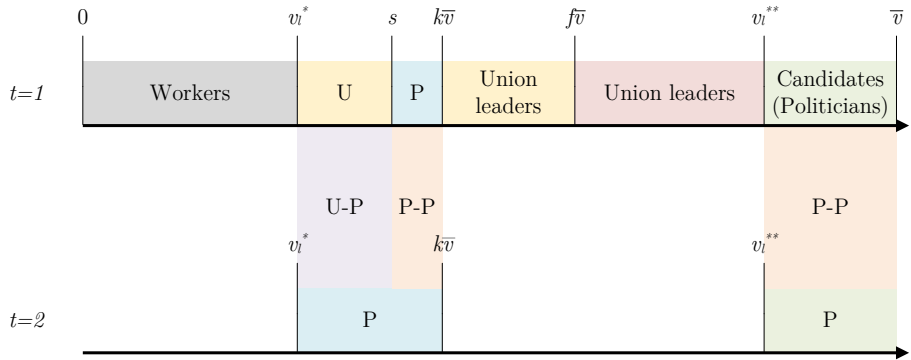
# 2) Union politicians from aspiring politicians

- If there is no political benefit from being a union leader, there are no dynamics to make aspiring politicians use unions as a springboard



# 2) Union politicians from aspiring politicians

- If having union leadership experience boosts group cohesion ($L \uparrow$), low-valence aspiring politicians will use unions as a springboard into politics

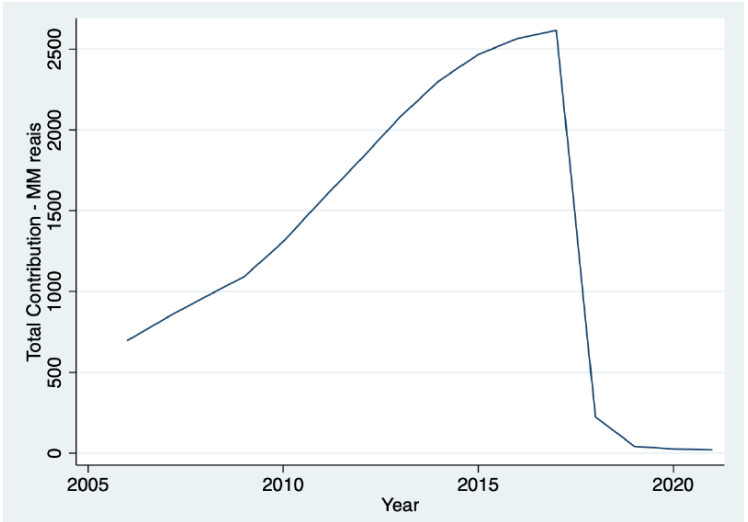


# Taking stock of the model

- Provides three types of union politicians, coming from changes in $L$ and $k$
- Sheds new light on the negative selection into politics among union leaders
  a) Payoffs of union leadership have diminished over time
  b) Springboard channel dominates the gateway channel
- Can theorize about settings where union politicians are positively selected: stable $k$, large $L \uparrow$ from being in a union, and screening to reduce springboard unionists
- Generates predictions for how the 2017 Labor Reform would change valence-based selection along the pipeline (**coming up**)

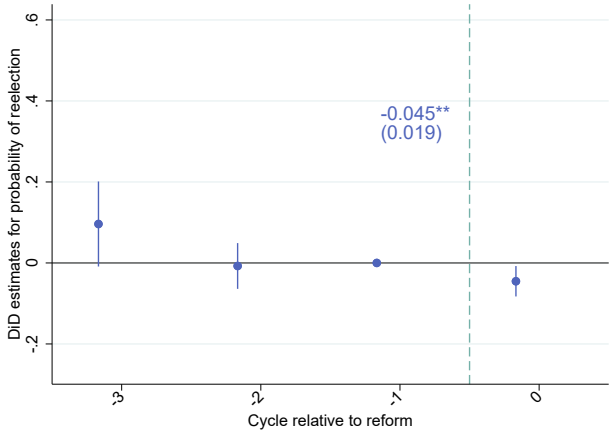
# Outline

# Effects of 2017 Labor Reform: union payoffs decrease ($k \uparrow$)



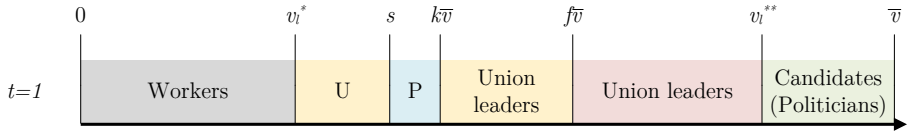

The reform reduced unions' revenue from contributions by more than 90%

# Effects of 2017 Labor Reform: smaller $L \uparrow$ at $t = 2$ for union leaders




Sample: repeated cross-section of politicians eligible for reelection (municipal)
$y_{it}$ = win reelection (unconditional on running); $Treat_i$ = union politicians

# Prediction: Changes to selection into union leadership



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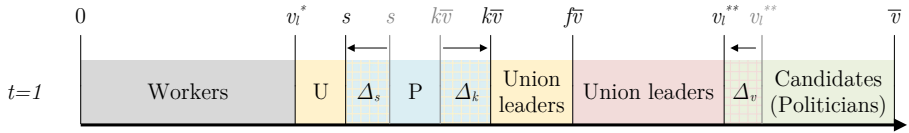
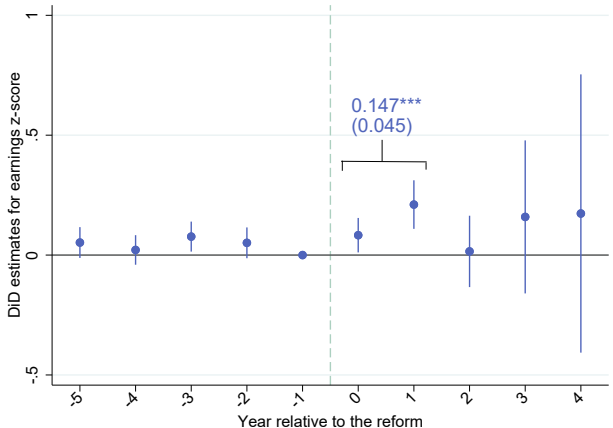


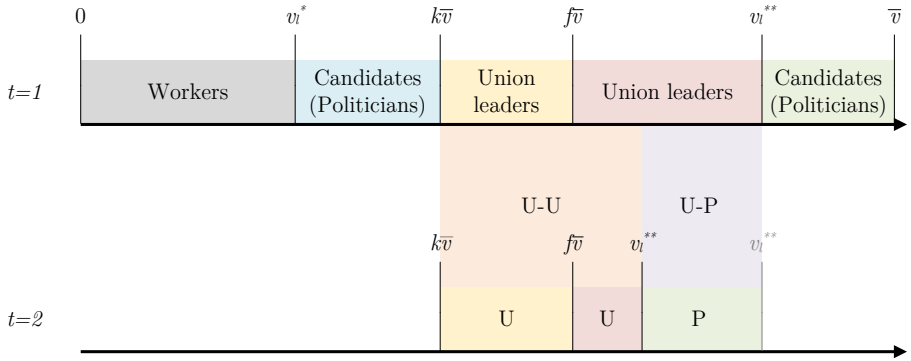

- Union payoffs decrease ($k \uparrow$): improves selection with $\Delta_k > \Delta_v$
- Smaller union electoral premium ($L \downarrow$): worsens selection with $\Delta_s$

# Changes in who selects into union leadership




Sample: repeated cross-section of new union leaders (with respective coworkers)
$y_{it}$ = earnings z-scores; $Treat_i$ = union leaders

# Prediction: Changes to selection of union politicians



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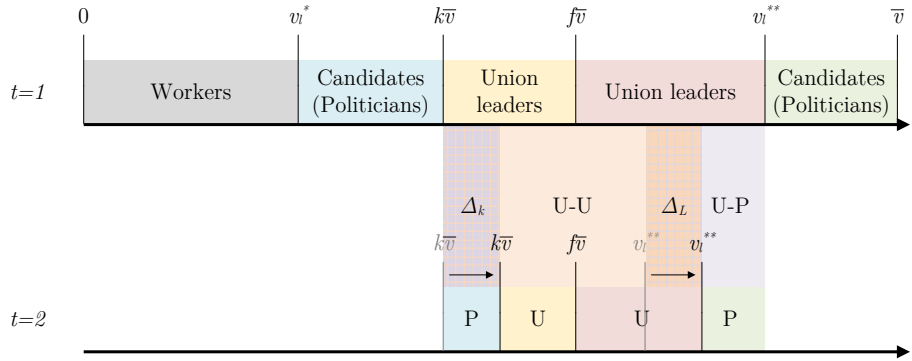
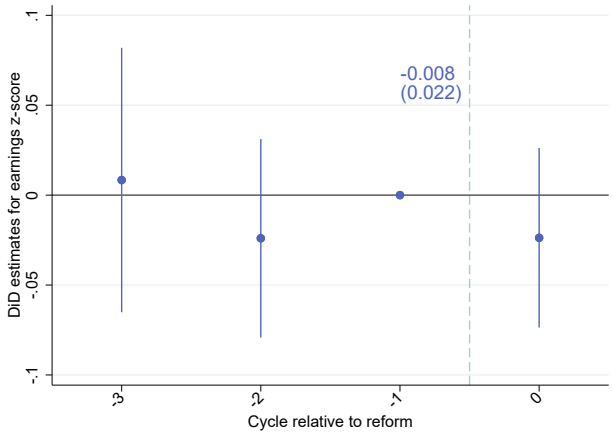



- Union payoffs decrease ($k \uparrow$): worsen selection with $\Delta_k$
- Smaller union electoral premium ($L \downarrow$): improve selection with $\Delta_L$

Alternative

# Changes to selection of union politicians




Sample: repeated cross-section of union politicians (UPs) and stayers (UU)
$y_{it}$ = earnings z-scores; $Treat_i$ = UPs

# Conclusion

- Union leadership has the potential to increase representation of the working class in politics
- Despite high profile cases of skillful UPs, the average UP in Brazil has relatively low valence because of negative selection among union leaders
- Our model suggests that lower union payoffs and/or springboard incentives dominate any positive selection implied by the gateway channel
- Find causal evidence of mechanisms for selection of UPs: union payoffs (from below) and electoral premiums (from above)

# The Union-Politics Pipeline

Ricardo Dahis (Monash)
Lorenzo Lagos (Brown)

January 5, 2024

# Working class politicians

4.1% of Brazil's 1999 *Câmara dos Deputados* was working class (vs. US House $< 2\%$)

86% of them had been union leaders [Rodrigues (2009); Carnes (2011)] Examples

# Examples from the pipeline

- Lula da Silva: union (metal) → deputy (PT) → president (PT)
- Jaime Fernandes Filho: union (professional) → deputy (PFL)
- Miguel S. Rossetto: union (metal) → union (petrochem) → vice-governor (PT)
- Olívio Dutra: union (bankers) → mayor (PT) → governor (PT)
- Pedro Celso: union (road workers) → deputy (PT)
- Jô Cavalcanti: union (informal) → assembly member (PSOL)
- Aladilce Souza: union (healthcare) → councilor (PCB)

Return

# Characteristics of union politicians

| | Full sample | Ran | Elected |
|---|---|---|---|
| *Panel A*: Union characteristics | | | |
| Local union | 94.4% | 92.2% | 89.7% |
| (Con)federation | 5.6% | 7.8% | 10.3% |
| C-suite role | 55.4% | 66.9% | 74.1% |
| Board role | 44.6% | 33.1% | 25.9% |
| *Panel B*: Politics characteristics | | | |
| Ran for municipal office | | 88.1% | 96.2% |
| Ran for state office | | 8.0% | 2.8% |
| Ran for federal office | | 3.9% | 1.0% |
| Ran in left party | | 36.5% | 34.2% |
| Ran in center party | | 37.2% | 40.1% |
| Ran in right party | | 26.3% | 25.7% |
| Union events | 332,881 | 14,612 | 1,345 |

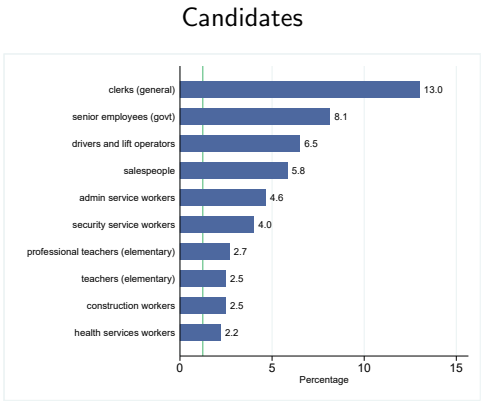
Return

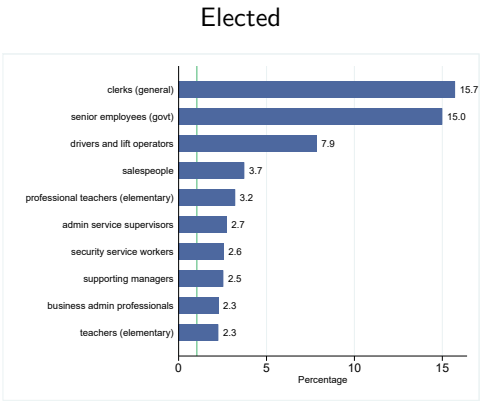
# Union politician in the pipeline

| | | | Office | | | Party | | |
|---|---|---|---|---|---|---|---|---|
| | Count | Share | Municipal | State | Federal | Left | Center | Right |
| Local union | 13,474 | (92.2%) | 88.9% | 7.5% | 3.6% | 35.7% | 37.3% | 26.9% |
| (Con)federation | 1,138 | (7.8%) | 78.5% | 13.8% | 7.7% | 45.6% | 35.2% | 19.2% |
| C-suite role | 9,773 | (66.9%) | 87.6% | 8.5% | 3.9% | 36.4% | 37.7% | 25.9% |
| Board role | 4,839 | (33.1%) | 89.0% | 6.9% | 4.1% | 36.8% | 36.0% | 27.2% |
| Public service | 6,812 | (46.6%) | 90.8% | 6.2% | 3.1% | 30.3% | 40.7% | 29.1% |
| Manufacturing | 2,342 | (16.0%) | 90.9% | 5.2% | 3.9% | 49.3% | 31.9% | 18.8% |
| Commerce | 1,728 | (11.8%) | 86.9% | 10.0% | 3.1% | 37.3% | 34.8% | 28.0% |
| Total | 14,612 | (100.0%) | 88.1% | 8.0% | 3.9% | 36.5% | 37.2% | 26.3% |

Return

# Politicians by occupation: municipal elections (2016)

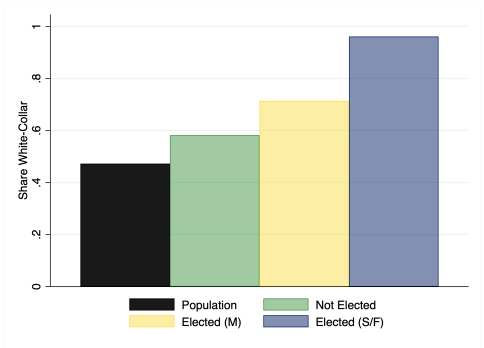


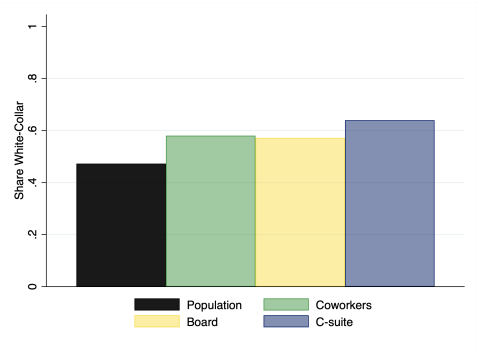

Union politicians make up 1.24% of candidates (behind **ten** blue collar occupations) and 1.04% of elected (behind **six** blue collar occupations). Return

# Selection: share white-collar

## Into politics



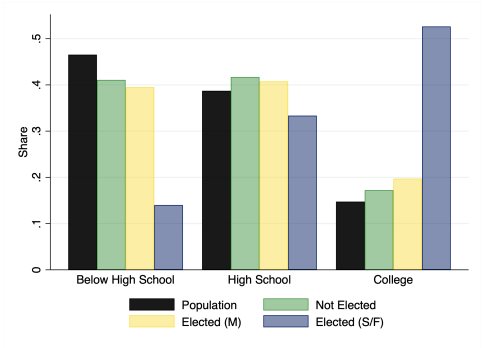

## Into unions



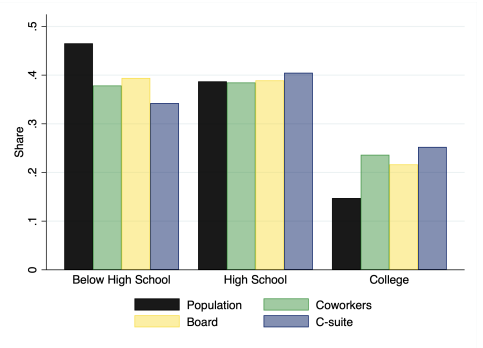

Return

# Selection: education level

Into politics



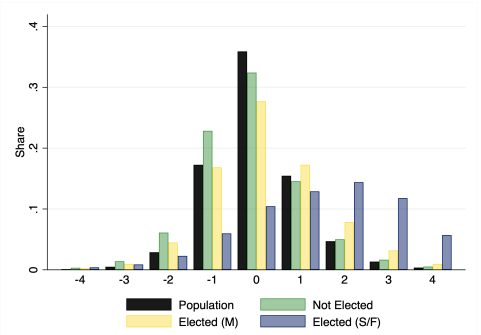

Into unions



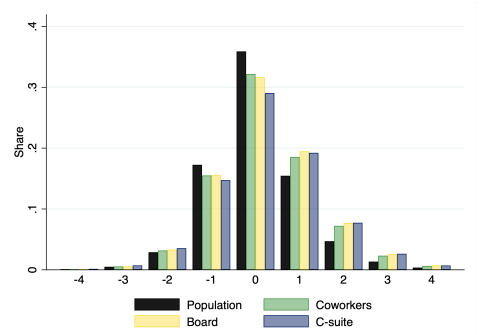

Return

# Selection: earnings z-score

Into politics




Into unions




Return

# Selection regressions: from population to politics

| | Earnings z-score | | |
|---|---|---|---|
| | All elections | Municipal | State/federal |
| Ran for office | -0.120*** | -0.075*** | 0.236*** |
| | (0.001) | (0.001) | (0.008) |
| Observations | 17,703,406 | 13,932,500 | 13,181,226 |
| R-squared | 0.004 | 0.023 | 0.003 |
| Demographics FE | | ✓ | ✓ |
| Spatial FE | | ✓ | ✓ |
| Year FE | | ✓ | ✓ |
| Mean | 0.066 | 0.065 | 0.074 |
| SD | 1.049 | 1.046 | 1.037 |

Return

# Selection regressions: from union leadership to politics

| | White collar | College | Earnings z-score |
|---|---|---|---|
| Ran for office | 0.004 | -0.024*** | -0.186*** |
| | (0.004) | (0.004) | (0.011) |
| Observations | 266,544 | 270,425 | 266,865 |
| R-squared | 0.171 | 0.102 | 0.013 |
| Demographics FE | ✓ | ✓ | ✓ |
| Spatial FE | ✓ | ✓ | ✓ |
| Year FE | ✓ | ✓ | ✓ |
| Mean | 0.592 | 0.252 | 0.270 |
| SD | 0.492 | 0.434 | 1.202 |

Return

# Model setup

- Two parties $j \in \{r, l\}$ randomly select one contender from their affiliates
  - Committed for two electoral cycles $t \in \{1, 2\}$
  - Contenders have valence $v_j \sim \mathcal{U}[0, \bar{v}]$

- For a given cycle, each contender chooses whether to run for office; if not running

  $j = r$ Takes the outside option, i.e., joins the workforce

  $j = l$ Chooses between union leadership or the outside option

- When both contenders run, a unit mass of voters (where share $\rho$ align with $j = r$) cast votes, with each $i$ choosing the candidate giving the highest private benefit

$$\omega v_j + \mathcal{I}(j = r)\delta_i \implies \text{vote for } r \text{ iff } \delta_i \geq \omega(v_l - v_r)$$

$$\delta_i \sim \mathcal{U}\left[\phi - \tfrac{1}{2R},\ \phi + \tfrac{1}{2R}\right] \text{ for } r\text{-voters; } \delta_i \sim \mathcal{U}\left[-\phi - \tfrac{1}{2L},\ -\phi + \tfrac{1}{2L}\right] \text{ for } l\text{-voters}$$

$\implies$ simple expression for the vote shares of each candidate $s_j(v_r, v_l, \rho, \omega, \phi, R, L)$

Return

# Positive selection and career unionists

- If not running, a contender joins union leadership iff $g - e(v_j) \geq 0$
- A contender runs for office iff

$$\frac{b - c(v_j) - \max\{0,\ g - e(v_j)\}}{b} \geq \mathcal{P}(-j \text{ runs})\mathcal{P}(s_j < 0.5 \mid v_j)$$

- Given the selection patterns in our setting, assume **positive selection**
  - Into unions: $e(v_j) = c - v_j$ so that $e'(v_j) < 0$
  - Into politics: $c(v_j) = h_c c - h_v v_j$ with $h_c > 0, h_v > 0$ so that $c'(v_j) < 0$
- To guarantee **career unionists**, i.e., $v_l \in (k\bar{v}, f\bar{v})$ always select into unions
  - Let $g = c - k\bar{v}$ and $b - g = (h_c - 1)c + (1 - h_v)f\bar{v}$ with $f > k$
  - $k \in [0, 1]$: fraction of valence types not considering union leadership
  - $f \in [0, 1]$: fraction not running if all valence types consider union leadership

Return

# Selection threshold formulas

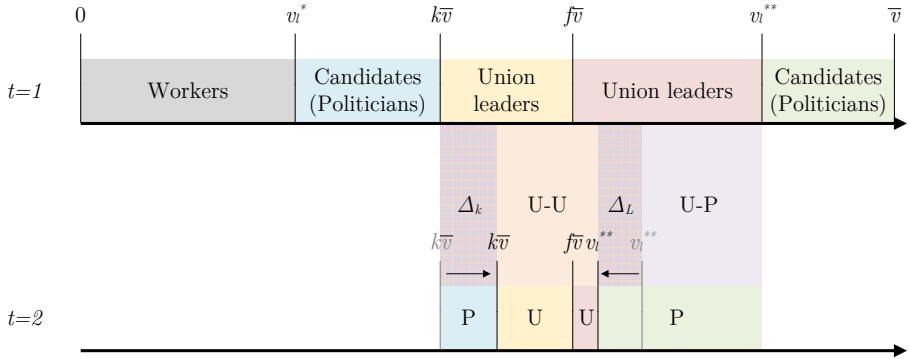
- Unique run threshold ($j = r$): $v_r^* = \frac{\bar{v}[c+b[1-(f-k)]-f\bar{v}(1-h_v)]-bx[1-(f-k)]}{\bar{v}h_v+b[1-(f-k)]}$
- Lower run threshold ($j = l$): $v_l^* = \frac{\bar{v}[c+b-f\bar{v}(1-h_v)]+bx}{\bar{v}h_v+b}$
- Upper run threshold ($j = l$): $v_l^{**} = \frac{\bar{v}[c+b-f\bar{v}(1-h_v)-k\bar{v}]+bx}{b-(1-h_v)\bar{v}}$
- "Election asymmetry" term: $x = \left(\frac{\rho R-(1-\rho)L}{\rho R+(1-\rho)L}\right)\left(\frac{\phi}{\omega}\right)$
- Parameter restrictions
  - Interior vote shares: $\bar{v} < \min\{\frac{1}{2L}+\phi, \frac{1}{2L}-\phi, \frac{1}{2R}+\phi, \frac{1}{2R}-\phi\}$
  - All contenders consider running for office: $b > h_c c - k\bar{v} \implies h_v \in (0,1)$
  - Upper run threshold exists: $b > \bar{v}(1-h_v)$
  - Aspiring politicians negatively select into unions: $\bar{v}(1-h_v) < 1$

Return

# Overview

- Labor reform (Nov 11, 2017) weakened unions
  - Ended the mandatory union contribution
  - Reduced unions' revenues by more than 90%
- How did this reform affect the union-politics pipeline?
  - Payoff of union leadership decreases, i.e., $g - e(v_j) \downarrow \implies k \uparrow$
  - Union electoral premium shrinks, i.e., smaller $L \uparrow$ at $t = 2$ for union leaders
- Model-based (short-run) predictions of these changes on
  - Who selects into union leadership?
  - Who selects into politics among union leaders?

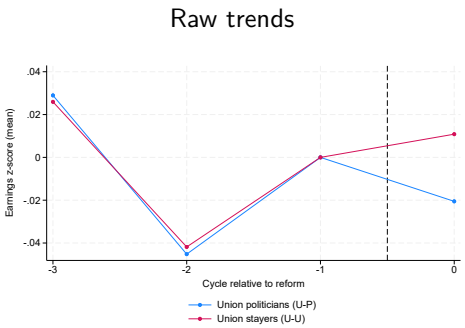
# Prediction: Changes to selection of union politicians

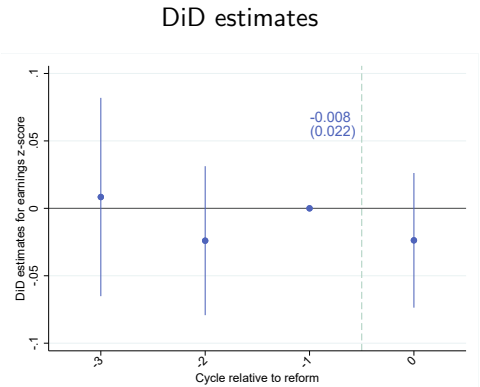



When the negative effect that $k \uparrow$ has on $v_l^{**}$ dominates the positive effect that $L \downarrow$ has on $v_l^{**}$, there is an unambiguous worsening in the selection of union politicians

Return

# Changes to selection of union politicians



# Events in the workforce sample

Pipeline sample

# Union-politics transitions in the workforce sample

Pipeline sample

# Union leaders in the pipeline sample

Return

| | Full sample | Ever run | Ever elected |
|---|---|---|---|
| | (1) | (2) | (3) |
| ***Panel A: Union characteristics*** | | | |
| Employer association | 23% | 16% | 24% |
| Rural union | 24% | 29% | 45% |
| (Con)federation | 2% | 3% | 5% |
| High ranked post | 36% | 51% | 58% |
| ***Panel B: Politics characteristics*** | | | |
| Run for council | - | 91% | 87% |
| Run for mayor | - | 5% | 18% |
| Run for state office | - | 9% | 9% |
| Run for federal office | - | 5% | 5% |
| Run in left party | - | 36% | 40% |
| Run in center party | - | 47% | 60% |
| Run in right party | - | 36% | 46% |
| Multiple electoral runs | - | 40% | 85% |
| Individuals starting in unions | 562,297 | 46,311 | 4,555 |
| (share out of full sample) | | (8.24%) | (0.81%) |

# Events in the pipeline

| | | | Destination event | | |
|---|---|---|---|---|---|
| Origin event | Count | Share | Out | Unions | Politics |
| Unions | 412036 | (19.9%) | 180524 (43.8%) | 212836 (51.7%) | 18676 (4.5%) |
| Politics | 1653544 | (80.1%) | 932866 (56.4%) | 39627 (2.4%) | 681051 (41.2%) |
| Total | 2065580 | (100.0%) | 53.9% | 12.2% | 33.9% |

# Union-politics transitions in the pipeline sample

| | | | Office | | | | Party | | |
|---|---|---|---|---|---|---|---|---|---|
| | Count | Share | Council | Mayor | State | Federal | Left | Center | Right |
| Labor Union | 18676 | (100.0%) | 85.0% | 3.0% | 8.0% | 4.0% | 37.4% | 36.6% | 25.9% |
| Employer Association | 0 | (0.0%) | .% | .% | .% | .% | .% | .% | .% |
| Local | 17224 | (92.2%) | 85.9% | 2.9% | 7.6% | 3.7% | 36.7% | 36.8% | 26.4% |
| (Con)Federation | 1452 | (7.8%) | 74.4% | 4.3% | 13.6% | 7.6% | 45.6% | 34.6% | 19.8% |
| C-Suite | 12558 | (67.2%) | 84.8% | 2.9% | 8.4% | 3.9% | 37.2% | 37.3% | 25.6% |
| Board | 6118 | (32.8%) | 85.4% | 3.3% | 7.2% | 4.1% | 38.0% | 35.4% | 26.6% |
| Small Union | 5020 | (26.9%) | 88.5% | 2.9% | 5.7% | 2.9% | 31.2% | 40.3% | 28.6% |
| Large Union | 3929 | (21.0%) | 75.5% | 3.7% | 13.4% | 7.4% | 57.7% | 26.4% | 15.9% |
| Total | 18676 | (100.0%) | 85.0% | 3.0% | 8.0% | 4.0% | 37.4% | 36.6% | 25.9% |

Workforce sample Union leaders

# Union-politics transitions in the pipeline sample (Workforce)

| | | | Office | | | | Party | | |
|---|---|---|---|---|---|---|---|---|---|
| | Count | Share | Council | Mayor | State | Federal | Left | Center | Right |
| Labor Union | 14612 | (100.0%) | 85.2% | 2.9% | 8.0% | 3.9% | 36.5% | 37.2% | 26.3% |
| Employer Association | 0 | (0.0%) | .% | .% | .% | .% | .% | .% | .% |
| Local | 13474 | (92.2%) | 86.1% | 2.8% | 7.5% | 3.6% | 35.7% | 37.3% | 26.9% |
| (Con)Federation | 1138 | (7.8%) | 74.2% | 4.3% | 13.8% | 7.7% | 45.6% | 35.2% | 19.2% |
| C-Suite | 9773 | (66.9%) | 84.8% | 2.8% | 8.5% | 3.9% | 36.4% | 37.7% | 25.9% |
| Board | 4839 | (33.1%) | 85.8% | 3.2% | 6.9% | 4.1% | 36.8% | 36.0% | 27.2% |
| Small Union | 3876 | (26.5%) | 88.3% | 2.9% | 5.7% | 3.0% | 30.2% | 40.5% | 29.3% |
| Large Union | 3053 | (20.9%) | 76.2% | 3.6% | 13.1% | 7.1% | 57.0% | 26.9% | 16.1% |
| Total | 14612 | (100.0%) | 85.2% | 2.9% | 8.0% | 3.9% | 36.5% | 37.2% | 26.3% |

Back

# Union-politics transitions in the pipeline sample

| | | | Office | | | | Party | | |
|---|---|---|---|---|---|---|---|---|---|
| | Count | Share | Council | Mayor | State | Federal | Left | Center | Right |
| Rural | 175 | (0.9%) | 80.0% | 6.3% | 9.7% | 4.0% | 27.4% | 46.3% | 26.3% |
| Industry | 3113 | (16.7%) | 87.4% | 2.7% | 6.3% | 3.6% | 50.8% | 31.0% | 18.3% |
| Transportation | 1356 | (7.3%) | 85.1% | 1.8% | 8.8% | 4.2% | 27.9% | 39.7% | 32.4% |
| Credit | 597 | (3.2%) | 75.9% | 7.9% | 11.1% | 5.2% | 65.0% | 23.6% | 11.4% |
| Communication | 241 | (1.3%) | 74.3% | 2.5% | 16.2% | 7.1% | 40.7% | 33.6% | 25.7% |
| Trade | 2327 | (12.5%) | 85.3% | 1.6% | 9.8% | 3.4% | 38.1% | 34.4% | 27.5% |
| Public Serv. | 8320 | (44.5%) | 88.3% | 2.7% | 6.0% | 3.0% | 31.2% | 39.9% | 28.9% |
| Others | 1522 | (8.1%) | 70.0% | 6.0% | 15.0% | 9.0% | 36.7% | 37.6% | 25.6% |
| Total | 18676 | (100.0%) | 85.0% | 3.0% | 8.0% | 4.0% | 37.4% | 36.6% | 25.9% |

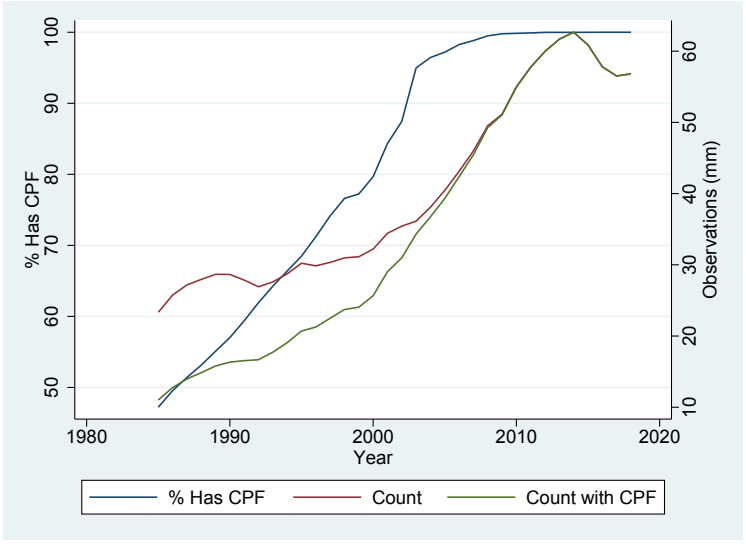
Workforce sample

# Union-politics transitions in the pipeline sample (Workforce)

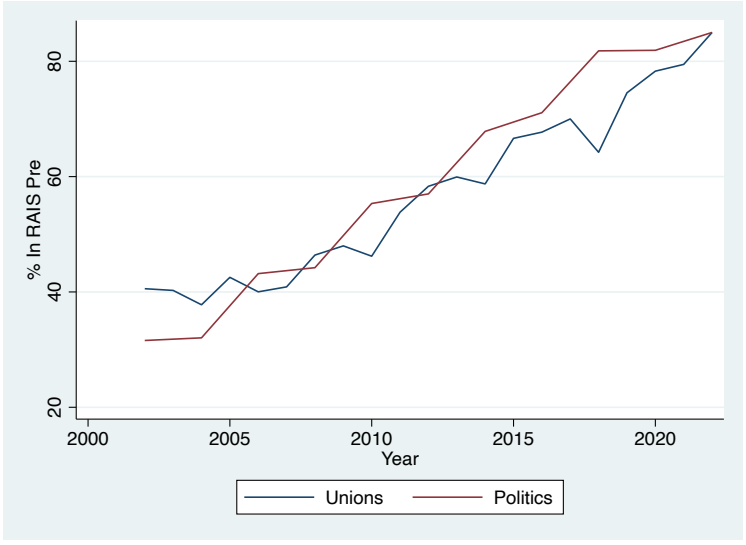
| | | | Office | | | | Party | | |
|---|---|---|---|---|---|---|---|---|---|
| | Count | Share | Council | Mayor | State | Federal | Left | Center | Right |
| Rural | 105 | (0.7%) | 80.0% | 4.8% | 11.4% | 3.8% | 21.9% | 50.5% | 27.6% |
| Industry | 2342 | (16.0%) | 88.1% | 2.8% | 5.2% | 3.9% | 49.3% | 31.9% | 18.8% |
| Transportation | 1031 | (7.1%) | 85.5% | 1.5% | 9.0% | 4.1% | 28.4% | 38.9% | 32.7% |
| Credit | 453 | (3.1%) | 74.4% | 8.6% | 11.9% | 5.1% | 64.7% | 23.6% | 11.7% |
| Communication | 203 | (1.4%) | 75.9% | 2.5% | 16.3% | 5.4% | 42.9% | 31.0% | 26.1% |
| Trade | 1728 | (11.8%) | 85.6% | 1.3% | 10.0% | 3.1% | 37.3% | 34.8% | 28.0% |
| Public Serv. | 6812 | (46.6%) | 88.1% | 2.7% | 6.2% | 3.1% | 30.3% | 40.7% | 29.1% |
| Others | 1140 | (7.8%) | 70.1% | 6.2% | 14.7% | 8.9% | 36.9% | 36.3% | 26.8% |
| Total | 14612 | (100.0%) | 85.2% | 2.9% | 8.0% | 3.9% | 36.5% | 37.2% | 26.3% |

Back

# Matching to RAIS



# Matching to RAIS



# Matching to RAIS

| | Origin events | | |
|---|---|---|---|
| | All | Unions | Politics |
| N | 2729107 | 1031333 | 1697774 |
| | (100.0%) | (37.8%) | (62.2%) |
| In RAIS pre-event | 1679329 | 607521 | 1071808 |
| | (61.5%) | (58.9%) | (63.1%) |

# Matching to RAIS

| | All | In RAIS |
|---|---|---|
| All | 2729107 | 61.5% |
| Unions | 1031333 | 58.9% |
| Labor Unions | 73.0% | 68.0% |
| Employer Associations | 26.8% | 34.1% |
| Rural | 23.6% | 23.3% |
| Industry | 19.5% | 64.4% |
| Transportation | 7.5% | 68.5% |
| Credit | 3.6% | 75.5% |
| Communication | 1.3% | 69.0% |
| Trade | 17.7% | 59.9% |
| Public Serv. | 14.5% | 87.9% |
| Others | 6.8% | 72.1% |
| Politics | 1697774 | 63.1% |
| Council | 91.7% | 63.6% |
| Mayor | 3.0% | 53.2% |
| State | 3.8% | 61.5% |
| Federal | 1.6% | 60.1% |
| Left | 18.0% | 62.2% |
| Center | 44.0% | 63.8% |
| Right | 37.9% | 62.8% |

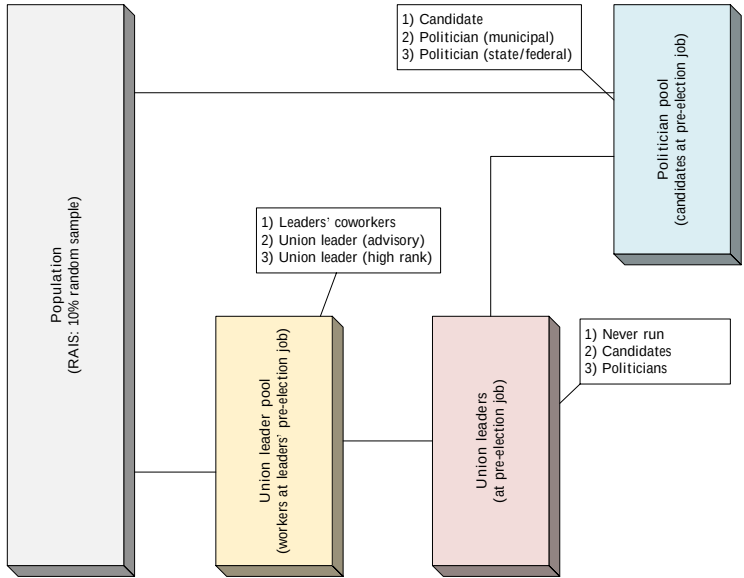
# Descriptives

| | Origin events | | |
|---|---|---|---|
| | All | Unions | Politics |
| Earnings Residual | 0.2 | 0.5 | 0.1 |
| Panel A: First | | | |
| Age | 27.8 | 27.5 | 27.9 |
| Wage (BRL 2018) | 1570.5 | 1824.7 | 1467.3 |
| White-Collar (%) | 60.5 | 65.3 | 57.7 |
| Blue-Collar (%) | 39.5 | 34.7 | 42.2 |
| Panel B: Last | | | |
| Age | 40.0 | 41.5 | 39.1 |
| Wage (BRL 2018) | 3338.3 | 4591.9 | 2646.9 |
| White-Collar (%) | 57.9 | 61.3 | 56.0 |
| Blue-Collar (%) | 41.5 | 38.7 | 43.1 |
| Experience | 10.2 | 12.3 | 9.0 |
| Tenure | 4.7 | 6.2 | 3.9 |

# Descriptives

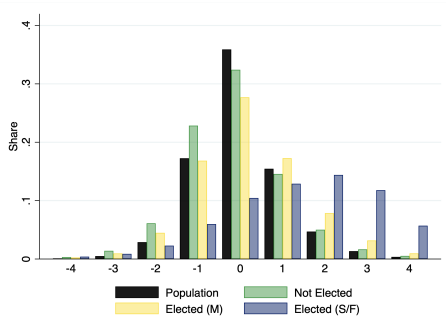
| | Labor Group | | Area | | Degree | | Title | |
|---|---|---|---|---|---|---|---|---|
| | Employee | Employer | Urban | Rural | Local | (Con)Federation | Manager | Advisor |
| Earnings Residual | 0.3 | 0.7 | 0.4 | 0.3 | 0.3 | 0.6 | 0.4 | 0.3 |
| Last Wage (BRL 2018) | 3192.3 | 5140.1 | 3538.3 | 2691.2 | 3339.2 | 4212.8 | 3424.5 | 3393.1 |
| Last Experience | 10.1 | 6.4 | 10.7 | 4.5 | 9.7 | 9.6 | 9.5 | 9.8 |
| Last Tenure | 5.3 | 3.0 | 5.6 | 2.2 | 5.1 | 4.7 | 4.9 | 5.2 |
| Last White-Collar (%) | 62.2 | 85.4 | 64.7 | 64.7 | 64.2 | 70.9 | 66.6 | 64.7 |
| Last Blue-Collar (%) | 37.8 | 14.5 | 35.2 | 35.2 | 35.8 | 29.1 | 33.3 | 35.3 |
| First Age | 28.4 | 36.0 | 27.7 | 34.5 | 29.4 | 29.6 | 29.2 | 29.6 |
| First Wage (BRL 2018) | 1564.2 | 3661.5 | 1738.4 | 2132.7 | 1783.6 | 2654.4 | 1847.0 | 1787.3 |
| First White-Collar (%) | 64.7 | 84.5 | 67.6 | 64.1 | 66.7 | 71.1 | 68.3 | 66.2 |
| First Blue-Collar (%) | 35.3 | 15.5 | 32.4 | 35.8 | 33.3 | 28.9 | 31.7 | 33.7 |

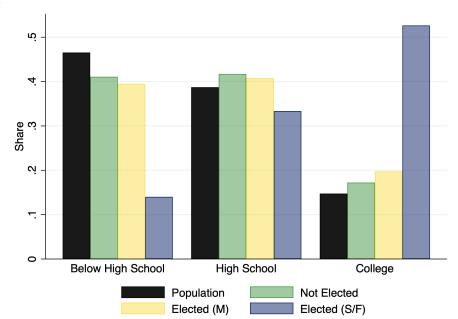
# Outline for descriptive analysis

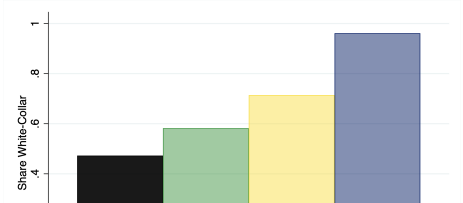


# 1) Who selects into politics? (Dal Bo et al. 2017)

Figure: Earnings z-score / Education / White-Collar



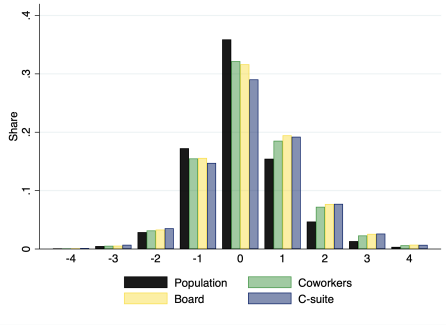



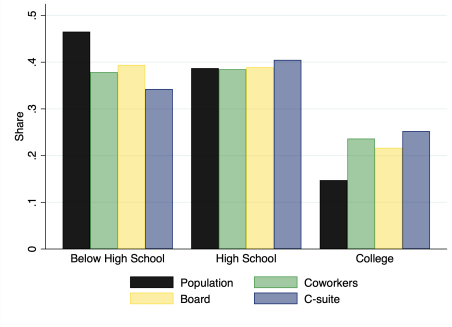



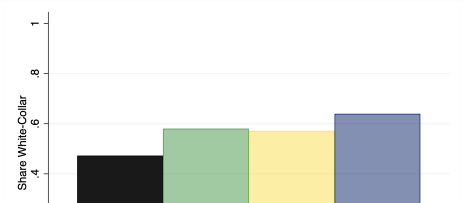
| | Population | Candidate (M) | Elected (M) | Candidate (S/F) | Elected (S/F) |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| Male (%) | .61 | .7 | .85 | .78 | .86 |
| | (.49) | (.46) | (.36) | (.42) | (.35) |
| Age | 35 | 39 | 38 | 40 | 41 |
| | (11) | (10) | (10) | (11) | (11) |
| High School (%) | .37 | .41 | .38 | .38 | .29 |
| | (.48) | (.49) | (.49) | (.48) | (.46) |
| College (%) | .19 | .19 | .23 | .39 | .56 |
| | (.39) | (.39) | (.42) | (.49) | (.5) |
| Earnings Residual | .18 | .05 | .51 | .64 | 2 |
| | (1) | (1.1) | (1.4) | (1.5) | (2) |
| White collar (%) | .46 | .56 | .72 | .79 | .96 |
| | (.5) | (.5) | (.45) | (.41) | (.2) |
| N | 49,038,960 | 1,216,439 | 244,573 | 89,291 | 11,039 |

# 2) Who selects into union leadership?

Figure: Earnings z-score / Education / White-Collar



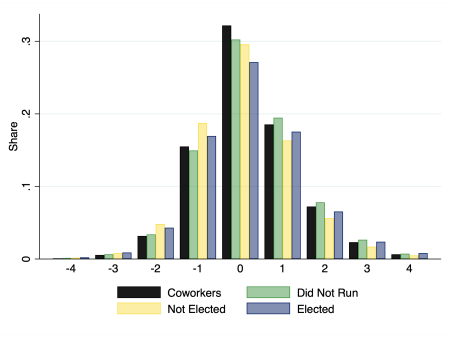



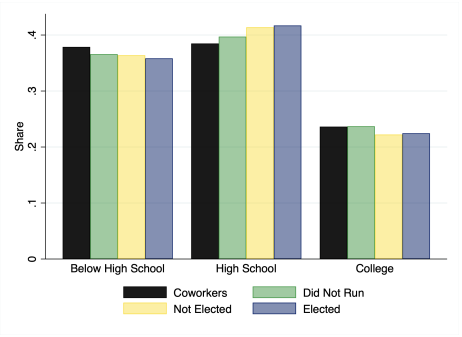



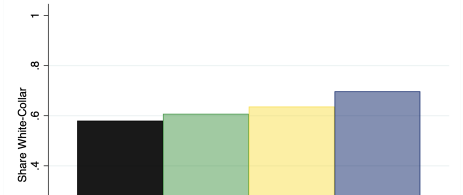
| | Population | Coworkers | Advisors | Managers |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| Male (%) | .61 | .58 | .74 | .78 |
| | (.49) | (.49) | (.44) | (.42) |
| Age | 35 | 38 | 42 | 41 |
| | (11) | (11) | (11) | (11) |
| High School (%) | .37 | .35 | .35 | .36 |
| | (.48) | (.48) | (.48) | (.48) |
| College (%) | .19 | .27 | .29 | .33 |
| | (.39) | (.45) | (.45) | (.47) |
| Earnings Residual | .18 | .7 | .55 | .69 |
| | (1) | (1.4) | (1.4) | (1.5) |
| White collar (%) | .46 | .59 | .6 | .7 |
| | (.5) | (.49) | (.49) | (.46) |
| N | 49,038,960 | 5,059,219 | 190,133 | 490,056 |

# 3) Who selects into politics, among union leaders?

Figure: Earnings z-score / Education / White-Collar



| | Coworkers | Never Run | Not Elected | Elected |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| Male (%) | .61 | .6 | .56 | .55 |
| | (.49) | (.49) | (.5) | (.5) |
| Age | 35 | 39 | 39 | 38 |
| | (11) | (11) | (11) | (11) |
| High School (%) | .37 | .35 | .35 | .35 |
| | (.48) | (.48) | (.48) | (.48) |
| College (%) | .19 | .28 | .29 | .28 |
| | (.39) | (.45) | (.45) | (.45) |
| Earnings Residual | .18 | .7 | .52 | .5 |
| | (1) | (1.4) | (1.3) | (1.3) |
| White collar (%) | .46 | .6 | .64 | .62 |
| | (.5) | (.49) | (.48) | (.48) |
| N | 49,038,960 | 5,374,774 | 330,933 | 33,701 |

# The impact of union politicians

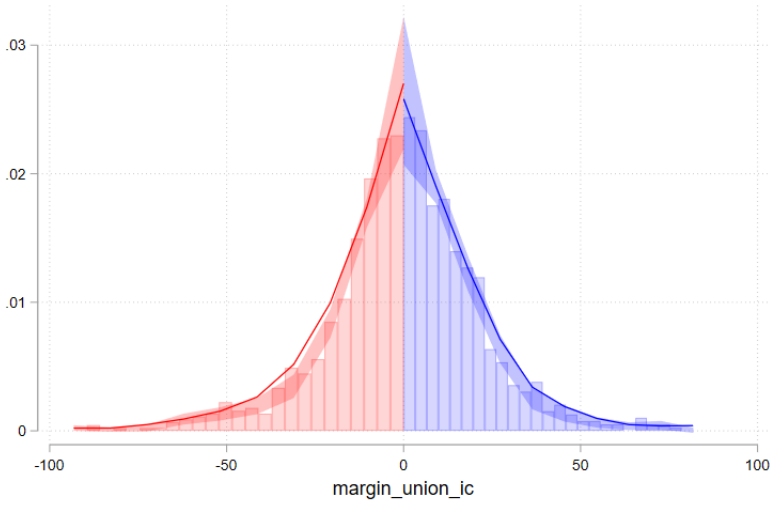
- Do union politicians matter? When taking office, do they impact social and economic outcomes in favor of the working class?

- RD design: close mayoral races where one of top 2 candidates is a union leader
  - Observation level: municipality - election term
  - Controls: population, term years, winners' gender, age, married, right wing

- Outcomes of interest at the municipality level
  1. General: GDP per capita, spending on education, health, etc.
  2. Worker-welfare: creation of formal businesses, formal jobs per capita
  3. Patronage: characteristics of public sector workers, union revenue

- Comparison RD analyses for testing mechanisms
  - Business leaders, i.e., non-union leadership experience
  - Working-class candidates, i.e., no screening from union leadership

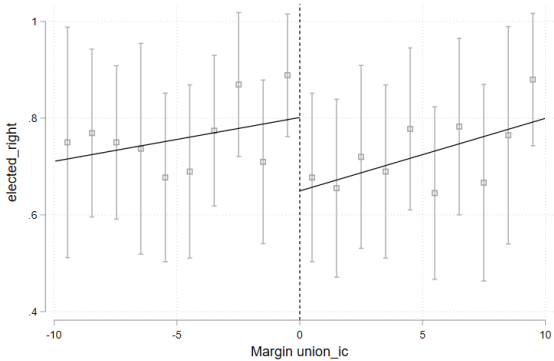
# No manipulation detected



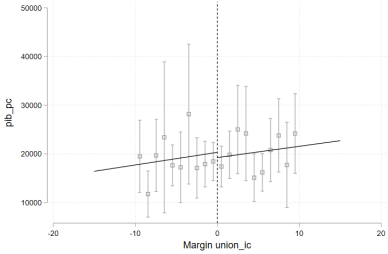
# Mayoral elections in sample

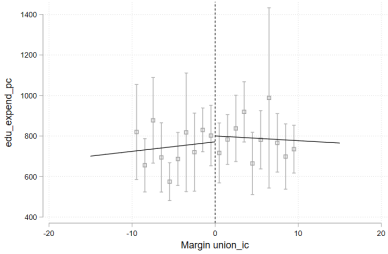
| | | Union in top-two | |
|---|---|---|---|
| | Full sample | All elections | Close elections |
| Mean GDP per capita | 14,495 | 21,785 | 19,685 |
| | | [0.000] | [0.048] |
| Mean jobs per capita | 0.13 | 0.17 | 0.17 |
| | | [0.000] | [0.252] |
| Mean wages | 1,099 | 1,428 | 1,379 |
| | | [0.000] | [0.042] |
| Population | 34,764 | 43,526 | 30,840 |
| | | [0.154] | [0.378] |
| Mean age of candidates | 49 | 51 | 51 |
| | | [0.000] | [0.697] |
| Northeast region | 32% | 21% | 21% |
| North region | 8% | 8% | 9% |
| Southeast region | 21% | 28% | 31% |
| South region | 30% | 28% | 27% |
| Midwest region | 8% | 14% | 12% |
| Total municipalities | 5,570 | 893 | 445 |
| Total elections | 27,850 | 1,249 | 526 |

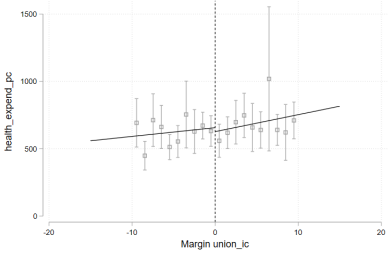
# Violation of covariate continuity assumption?

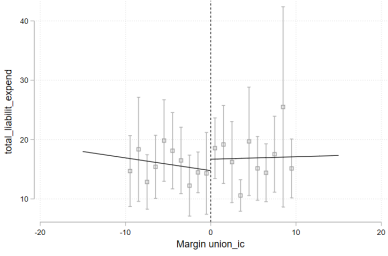


# Preliminary results: electing a union leader as mayor



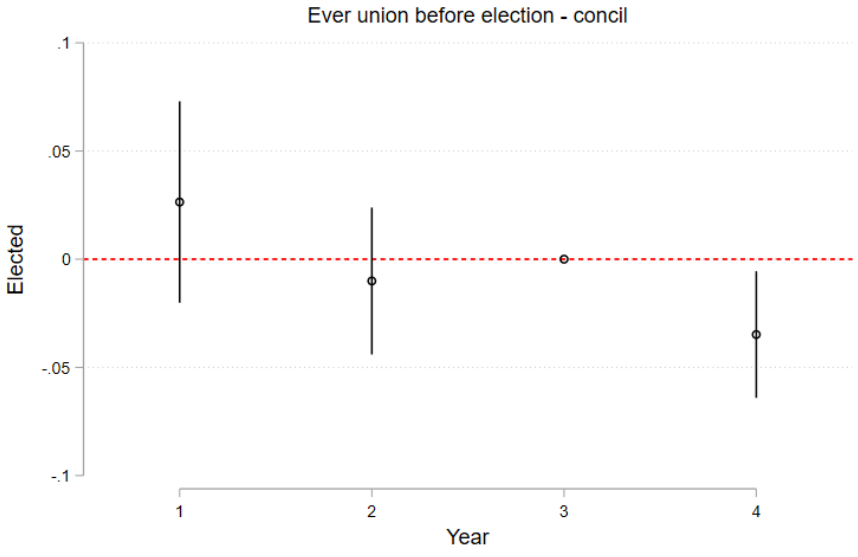



# Preliminary results: electing a union leader as mayor

| | (1) \% Agro expenditure | (2) \% Industry expenditure | (3) Exp. on agro per cap | (4) Exp. on industry per cap | (5) Agro as \% GDP | (6) Industry as \% GDP | (7) GDP per cap |
|---|---|---|---|---|---|---|---|
| Estimate | -0.08 | 0.03 | 3.98 | 0.00 | 1.00 | -2.88 | -1,501.92 |
| | (0.14) | (0.03) | (12.10) | (0.00) | (39.86) | (9.67) | (2,251.62) |
| Observations | 1,201 | 1,201 | 1,199 | 1,199 | 1,201 | 1,201 | 1,199 |
| Effective Obs | 737 | 756 | 754 | 663 | 664 | 585 | 784 |
| Bandwidth | 15,49 | 16,20 | 16,11 | 13,32 | 13,37 | 11,18 | 17,15 |
| Controls | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

# Preliminary results: reelected for council (all incumbents)



# Preliminary results: reelected for council

| VARIABLES | (1) Elected for concil {t+1} | (2) Elected for concil {t+1} | (3) Elected for concil {t+1} | (4) Elected for concil {t+1} | (5) Elected for concil {t+1} | (6) Elected for concil {t+1} |
|---|---|---|---|---|---|---|
| Ever in union before election x Post reform | -0.0370*** | -0.0394*** | -0.0393*** | -0.0409*** | -0.0435*** | -0.0457*** |
| | (0.0131) | (0.0131) | (0.0129) | (0.0157) | (0.0157) | (0.0155) |
| Observations | 217,659 | 217,658 | 217,582 | 159,830 | 159,829 | 159,825 |
| R-squared | 0.0001 | 0.0010 | 0.0236 | 0.0001 | 0.0031 | 0.0330 |
| Sample | Incumbent | Incumbent | Incumbent | Incumbent running | Incumbent running | Incumbent running |
| Party FE | No | Yes | Yes | No | Yes | Yes |
| Characteristics FE | No | No | Yes | No | No | Yes |
| Number of clusters | 144272 | 144272 | 144206 | 109260 | 109259 | 109257 |
| Mean of dependent var | 0.409 | 0.409 | 0.409 | 0.556 | 0.556 | 0.556 |
| SD of dependent var | 0.492 | 0.492 | 0.492 | 0.497 | 0.497 | 0.497 |

# Preliminary results: reelected for mayor (all incumbents)