# Information About Corruption and Politicians' Proposals

Guillermo Lezama
Department of Economics
University of Pittsburgh

September 6, 2023

# Motivation

- Concerns about the propagation of misinformation and populist rhetoric in electoral campaigns (e.g. Batista Pereira, Bueno, Nunes, & Pavão, 2022; Berman, 2021; Guriev & Papaioannou, 2022).

# Motivation

- Concerns about the propagation of misinformation and populist rhetoric in electoral campaigns (e.g. Batista Pereira et al., 2022; Berman, 2021; Guriev & Papaioannou, 2022).

- Elite rhetoric has real-life consequences (e.g. Clayton et al., 2021; Hobbs & Lajevardi, 2019).

# Motivation

- Concerns about the propagation of misinformation and populist rhetoric in electoral campaigns (e.g. Batista Pereira et al., 2022; Berman, 2021; Guriev & Papaioannou, 2022).

- Elite rhetoric has real-life consequences (e.g. Clayton et al., 2021; Hobbs & Lajevardi, 2019).

- Growing interest in how politicians strategically choose what to communicate (e.g. Gennaro et al., 2021).

# Motivation

- Concerns about the propagation of misinformation and populist rhetoric in electoral campaigns (e.g. Batista Pereira et al., 2022; Berman, 2021; Guriev & Papaioannou, 2022).

- Elite rhetoric has real-life consequences (e.g. Clayton et al., 2021; Hobbs & Lajevardi, 2019).

- Growing interest in how politicians strategically choose what to communicate (e.g. Gennaro et al., 2021).

- Corruption scandals:
  - Revealing them shows problems in the government.
  - Populist leaders often exploit public frustration with corruption (Berman, 2021).

# Motivation

- Concerns about the propagation of misinformation and populist rhetoric in electoral campaigns (e.g. Batista Pereira et al., 2022; Berman, 2021; Guriev & Papaioannou, 2022).

- Elite rhetoric has real-life consequences (e.g. Clayton et al., 2021; Hobbs & Lajevardi, 2019).

- Growing interest in how politicians strategically choose what to communicate (e.g. Gennaro et al., 2021).

- Corruption scandals:
  - Revealing them shows problems in the government.
  - Populist leaders often exploit public frustration with corruption (Berman, 2021).

**Does information about corruption affect politicians' communication?**

# Research Question

**Does information about corruption affect politicians' communication?**

# Research Question

**Does information about corruption affect politicians' communication?**

Do politicians modify their **agenda** in response to information about corruption prior to the election?

- Is the information about the corruption case included in politicians' proposals?
- Does it affect how politicians hierarchize among topics?

# Research Question

**Does information about corruption affect politicians' communication?**

Do politicians modify their **agenda** in response to information about corruption prior to the election?

- Is the information about the corruption case included in politicians' proposals?
- Does it affect how politicians hierarchize among topics?

Do politicians modify their **ideological frameworks** in response to information about corruption prior to the election?

# Research Question

**Does information about corruption affect politicians' communication?**

Do politicians modify their **agenda** in response to information about corruption prior to the election?

- Is the information about the corruption case included in politicians' proposals?
- Does it affect how politicians hierarchize among topics?

Do politicians modify their **ideological frameworks** in response to information about corruption prior to the election?

- Use of populist rhetoric
- Use of extreme language

▸ What is Populism?

# This Paper

Information about Corruption in Brazilian Municipalities

$\Downarrow$

Proposals made by mayoral candidates

# This Paper

Information about Corruption in Brazilian Municipalities

$\Downarrow$

Proposals made by mayoral candidates

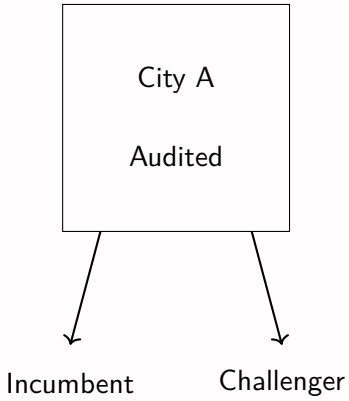
- Information about Corruption: Randomized Audits Program in Brazil
  - How many irregularities?
  - In which areas?

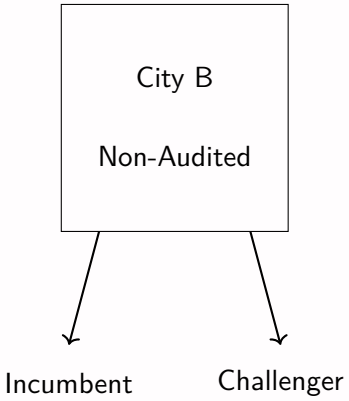
▸ Irregularities

# What do I do?

# What do I do?

# What do I do?

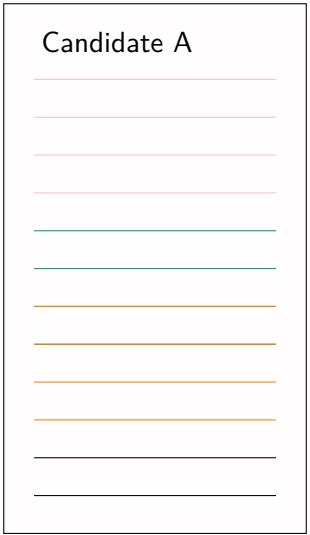

City A
Audited
Incumbent
Challenger


City B
Non-Audited
Incumbent
Challenger

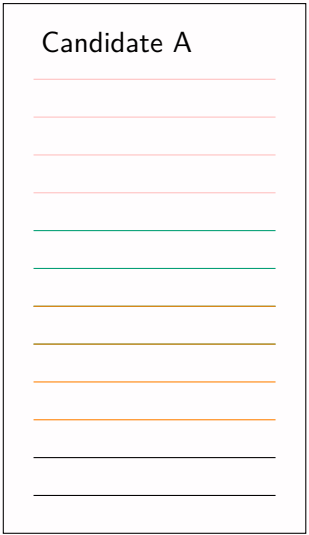
# What do I do?

# What do I do?

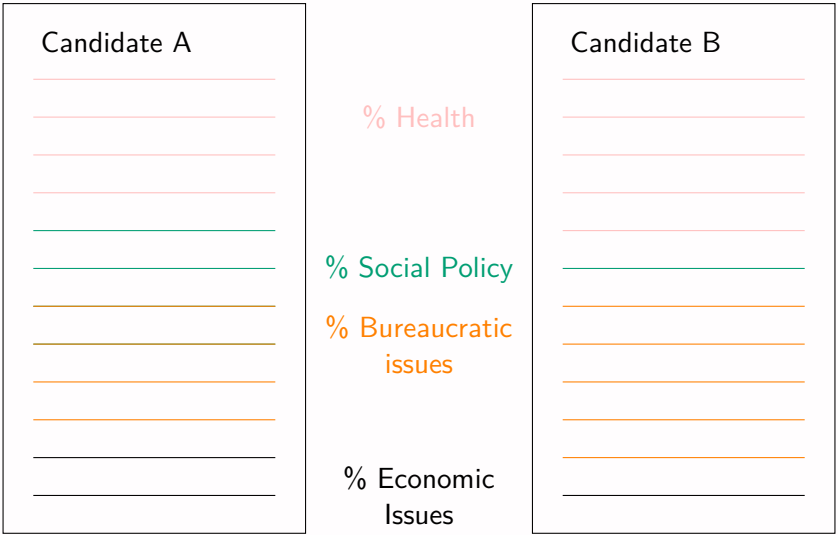
# What do I Compare?



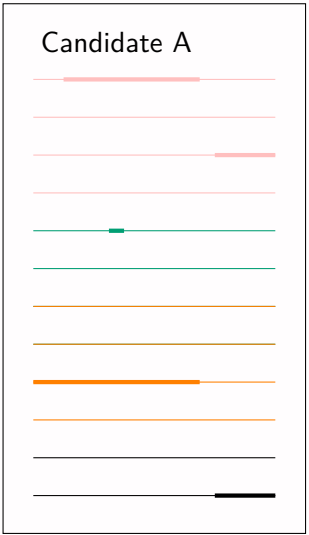
# What do I Compare?



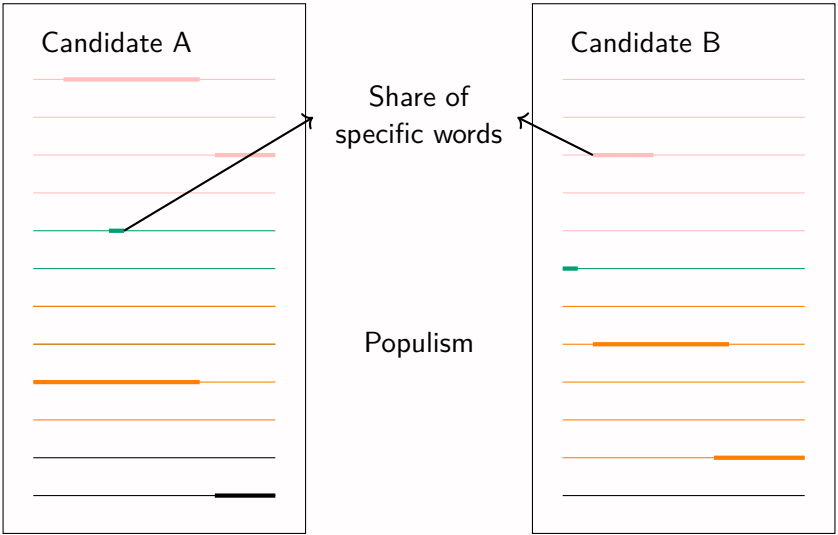
# What do I Compare?



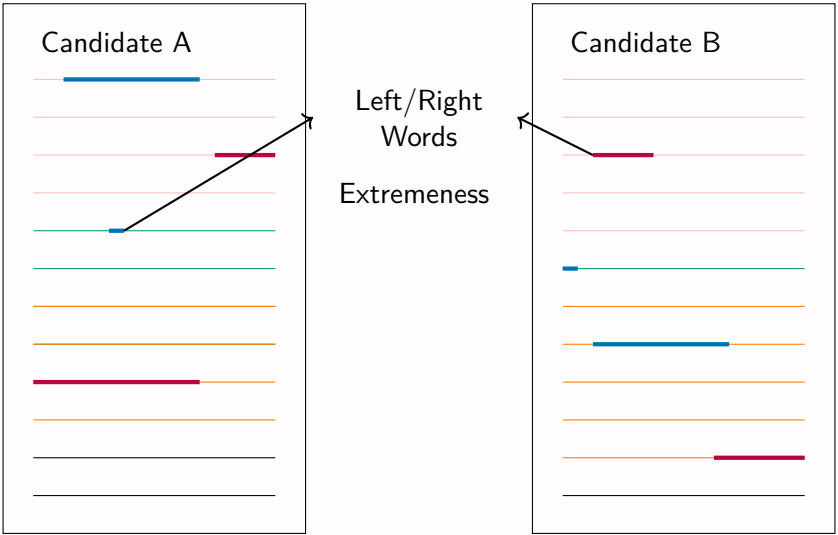
# What do I Compare?



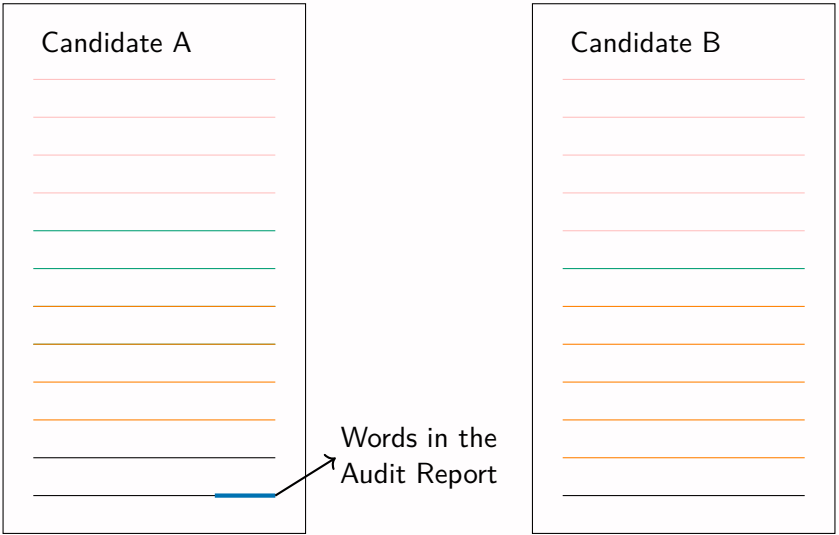
# What do I Compare?



# What do I Compare?



# What do I Compare?



# Summary of the Results: Agenda

- Audits affect the agenda:
  - $\uparrow$ % vocabulary used in audit reports: 8-16% of the mean.
  - $\uparrow$ % focus on topics **by challengers** in municipalities that were audited when a high number of irregularities is found.
  - $\downarrow$ % focus on topics **by incumbents** in municipalities that were audited when a high number of irregularities is found.

# Summary of the Results: Agenda

- Audits affect the agenda:

  ↑ % vocabulary used in audit reports: 8-16% of the mean.

  ↑ % focus on topics **by challengers** in municipalities that were audited when a high number of irregularities is found.

  ↓ % focus on topics **by incumbents** in municipalities that were audited when a high number of irregularities is found.

- Audits affect political positioning:
  - Low corruption municipalities:

    Challengers reduce the use of populist and extreme rhetoric.
  - High corruption municipalities:

    Incumbents increase the use of populist rhetoric.

# Related Work

- responses with changes in political agenda to changes in reputation (e.g. Aragonès, Castanheira, & Giani, 2015; Dragu & Fan, 2016; Riker, 1996)

- factors driving the rise of populism (Berman, 2021; Gennaro et al., 2021; Guriev & Papaioannou, 2022) and extremism. How do candidates respond to reputation shocks? (e.g. Bernhardt, Buisseret, & Hidir, 2020; Buisseret & Van Weelden, 2022; Groseclose & Milyo, 2005; Serra, 2010)

- Impact of information on politicians' effort, policy choices, and electoral choices.
  - committees participation (Snyder Jr & Strömberg, 2010)
  - city council candidates' quality (Cavalcanti, Daniele, & Galletta, 2018):
  - campaign spending (Poblete-Cazenave, 2021)
  - other audits (Amorim, 2022; Avis, Ferraz, & Finan, 2018; Colonnelli & Prem, 2020; Ferraz & Finan, 2008, 2011; Gonzales, 2021; Lauletta, Rossi, & Ruzzier, 2020)

# Interplay between Audits and Platforms

Information about Corruption $\Rightarrow^{?}$ Proposals

1. More information about the government
2. Reputation shocks

# Interplay between Audits and Platforms

Information about Corruption $\Rightarrow^{?}$ Proposals

1. More information about the government
2. Reputation shocks

a. Agenda (choice about which issues to emphasize)
   - New information affects focus on or perception about optimal policies (Abou-Chadi et al., 2020; Williams et al., 2016) and candidates choose topics in which they have an advantage (Riker, 1996) or not (Aragonès et al., 2015; Dragu & Fan, 2016).

# Interplay between Audits and Platforms

Information about Corruption $\Rightarrow^{?}$ Proposals

1. More information about the government
2. Reputation shocks

a. Agenda (choice about which issues to emphasize)
   - New information affects focus on or perception about optimal policies (Abou-Chadi et al., 2020; Williams et al., 2016) and candidates choose topics in which they have an advantage (Riker, 1996) or not (Aragonès et al., 2015; Dragu & Fan, 2016).

b. Ideological Positioning
   - Changes in reputation affect electoral competitiveness $\Rightarrow$ positioning (e.g. Bernhardt et al., 2020; Buisseret & Van Weelden, 2022; Groseclose & Milyo, 2005; Serra, 2010)

# Interplay between Audits and Platforms

Information about Corruption $\Rightarrow^{?}$ Proposals

1. More information about the government
2. Reputation shocks

a. Agenda (choice about which issues to emphasize)
   - New information affects focus on or perception about optimal policies (Abou-Chadi et al., 2020; Williams et al., 2016) and candidates choose topics in which they have an advantage (Riker, 1996) or not (Aragonès et al., 2015; Dragu & Fan, 2016).

b. Ideological Positioning
   - Changes in reputation affect electoral competitiveness $\Rightarrow$ positioning (e.g. Bernhardt et al., 2020; Buisseret & Van Weelden, 2022; Groseclose & Milyo, 2005; Serra, 2010)
   - Corruption accusations are associated with populist rhetoric (Berman, 2021).
   - The existence of accurate information to negatively affect populist rhetoric (fake news are associated with this rhetoric (Guriev & Papaioannou, 2022)

# Background: Brazilian's Case

Audits to Municipalities

- In 2003, Brazil introduced a **randomized** audits policy that disclosed information about corruption cases in local governments.
- Each audited municipality receives a report.
- Audits are targeted to specific areas for municipalities with population $> 20{,}000$.
  - Irregularities
- Had effects (e.g. Avis et al., 2018; Ferraz & Finan, 2008; Lauletta et al., 2020)

# Background: Brazilian's Case

Audits to Municipalities

- In 2003, Brazil introduced a **randomized** audits policy that disclosed information about corruption cases in local governments.
- Each audited municipality receives a report.
- Audits are targeted to specific areas for municipalities with population $>$ 20,000.
  - Irregularities
- Had effects (e.g. Avis et al., 2018; Ferraz & Finan, 2008; Lauletta et al., 2020)

Elections and Manifestos

- Municipal elections every four years.
- Since 2009, it is mandatory to present **manifestos** before the election for an executive position. ▸ Manifestos in the News

# Data

- 2012 election in municipalities in Brazil.
  - 2,691 candidates ran for reelection (incumbents)
  - 5,049 candidates were challengers to incumbents (challengers)

- Audits
  - Audited municipality if audited in 2009-2012 ($Audited_{mst}$)
  - 478 audited municipalities (out of 5,568) in 2009-2012.
  - Data about corruption and irregularities ▸ Irregularities
  - Data about the topic of the irregularity.

- Municipal characteristics (IBGE).

- Candidates manifestos at the local level in Brazil for the 2012 election.

  ▸ Manifestos in the News

  - From the electoral authority website: Downloaded 16,173 pdfs and 13,724 texts.
  - After cleaning: 13,344 candidates from 5,394 municipalities

  ▸ Descriptives

# Dependent Variables: Agenda

1. Overlap With Audit Reports
   - Measure: Share of words in reports present in manifestos.
2. Agenda: Classified lines into topics
   - Supervised learning: Multinomial naive Bayes classifier (manually codified $\approx 1\%$)
   - Labels: Titles, Introduction, Health, Social Policy, Economic/Sectoral and Environmental Policies, Bureaucratic issues, Infrastructure and Urban issues, and Crime.
   - Measure: how much of a specific agenda they discuss.

▸ Descriptives

# Dependent Variables: Ideological Positioning

3. Populism

| Dimension | Example words (in English) |
|---|---|
| Populism (Gennaro et al., 2021) | elite, absurd, corrupt, establishment |

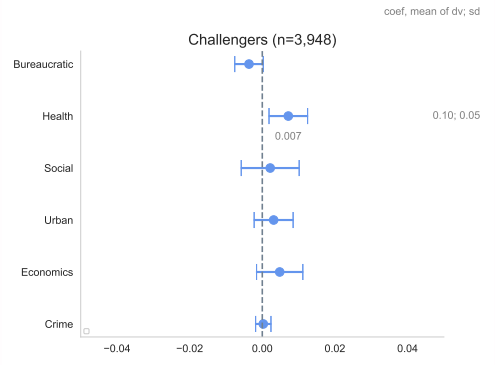
▸ Methodology ▸ Geographical Variation ▸ Example

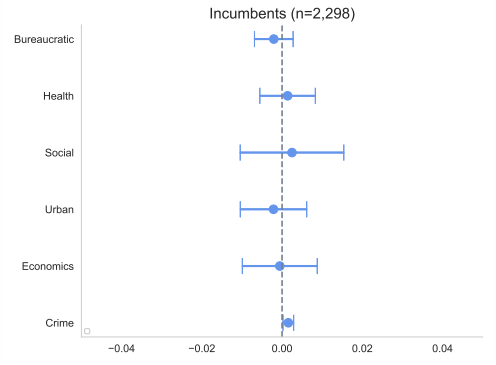
4. Manifestos Positioning in the Left-Right axis: Wordscores (Laver, Benoit, & Garry, 2003; Le Pennec, 2022).
   - Which words are used by the Left or the Right?
   - Data-driven
   - Compute scores for each document. ▸ Methodology ▸ Words ▸ Densities Ideological

▸ Descriptives

# Exploratory Analysis

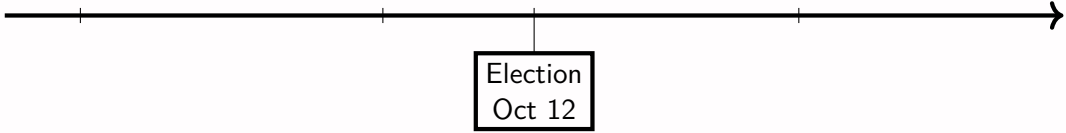
$$Shares_{imst} = \beta_0 + \beta_1 Audited_{mst} + \gamma Controls_{imst} + \nu_s \varepsilon_{imst}$$



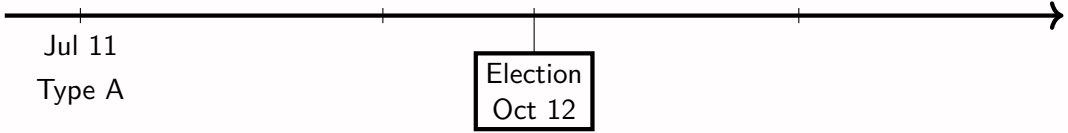




95% CI's. ▸ Means

# Empirical Strategy: Effect of the Audit I



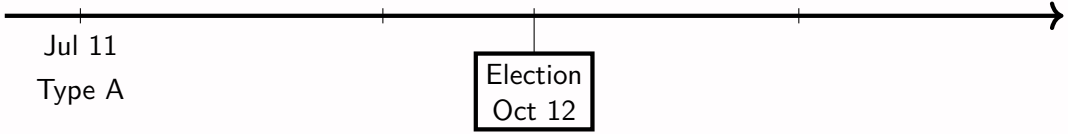
# Empirical Strategy: Effect of the Audit I




City A

Audit Report
Before Election

# Empirical Strategy: Effect of the Audit I

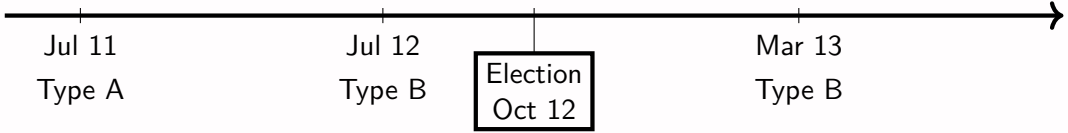



City A

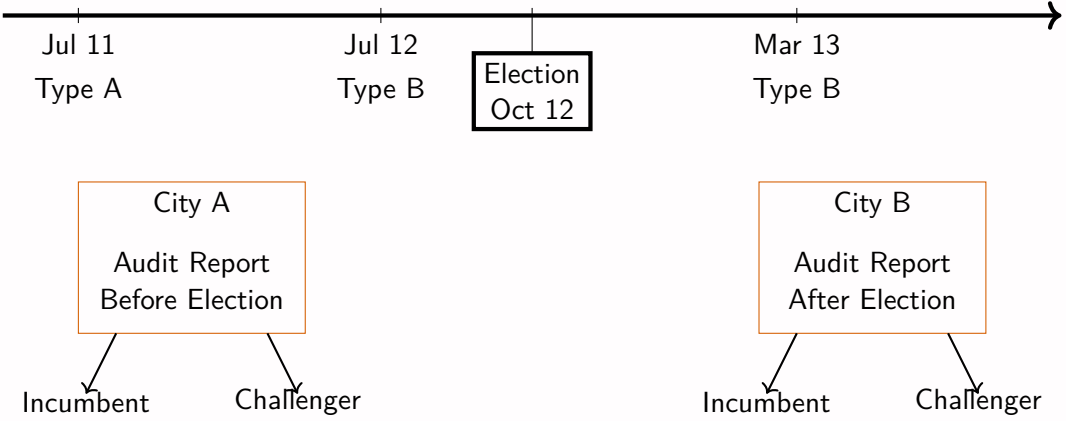
Audit Report
Before Election

City C
No Audit Report $\Leftarrow$ (Before 2009, After 2012 or Never Audited)

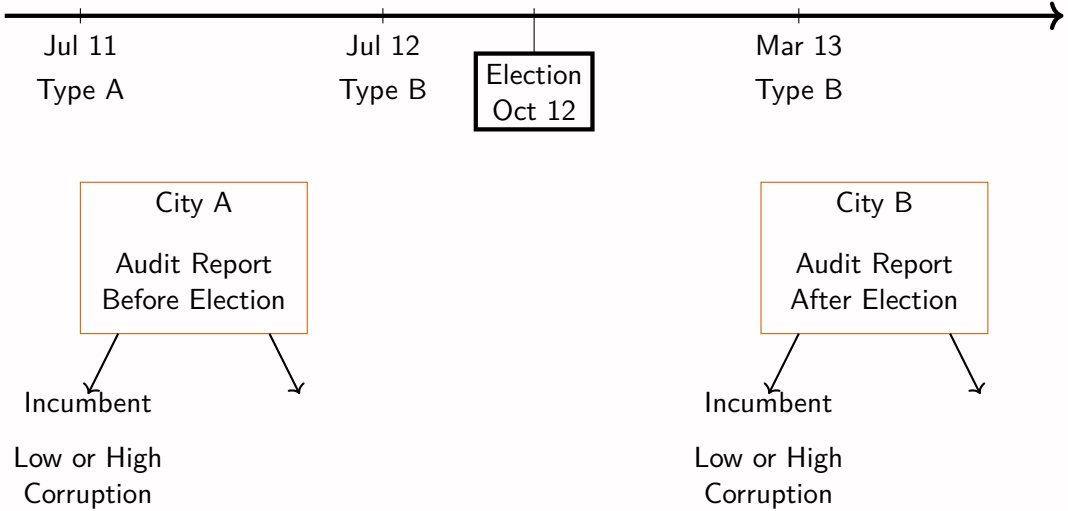
# Empirical Strategy: Effect of the Audit I



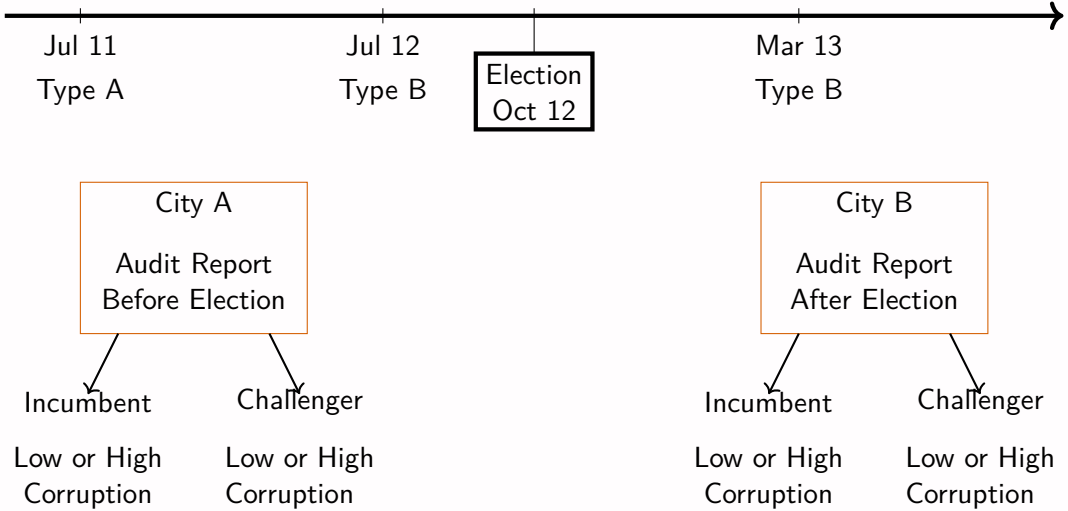
# Empirical Strategy: Effect of the Audit I



# Empirical Strategy: Effect of the Audit I



# Empirical Strategy: Effect of the Audit I



# Empirical Strategy: Effect of the Audit II

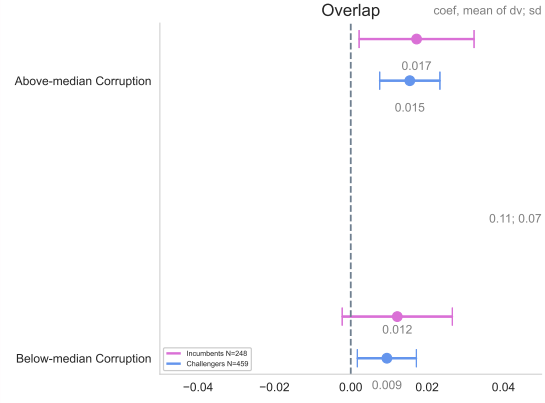
$$Outcome_{imst} = \alpha + \beta_0 Audited_{mst} + \beta_1 Audited_{mst} \times Corruption + \\ + \beta_2 Corruption + \gamma Controls_{imst} + \nu_s + \varepsilon_{imst}$$

- $Audited_{mst} = \mathbb{1}$(municipality audit report disclosed before the 2012 election)
- $Corruption = \mathbb{1}$(number of acts of corruption higher than the median)

  ▸ Controls

- Used in Ferraz and Finan (2008) ▸ Balance ▸ Balance 2
- $\beta_0$ : effect of the audit results disclosed before the election, given the acts of corruption were below the median.
- $\beta_0 + \beta_1$: effect of the audit results disclosed before the election, given the acts of corruption were above the median.

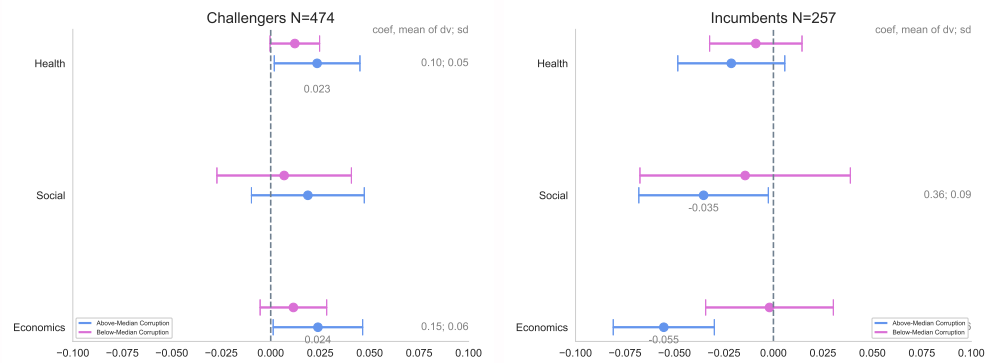
# Results I: Effect of the Audit on the Content




95% CI's. ▸ Table Incumbents ▸ Table Challengers ▸ Means
▸ Irregularities

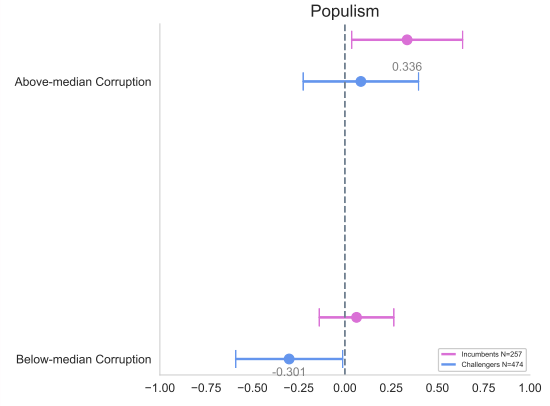
# Results II: Effect of the Audit on the Agenda (cond. on Corruption)

$$Corruption_{mst} = \mathbb{1}(\text{Share of Irregularities in that Topic higher than the median})$$



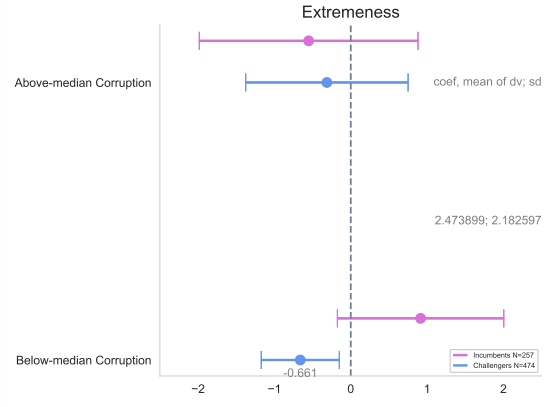

95% CI's. ▸ Descriptives ▸ By Population ▸ Table Incumbents ▸ Table Challengers

# Results III: Effect of the Audit on Populism (cond. on Corruption)




95% CI's. ▸ Table Incumbents ▸ Table Challengers ▸ Means

# Results IV: Effect of the Audit on Extremeness (cond. on Corruption)




95% CI's. ▸ Table Incumbents ▸ Table Challengers ▸ Means

# Summary of the Results

**Does information about corruption affect politicians' communication?**

Do politicians modify their **agenda** in response to information about corruption prior to the election?

Do politicians modify their **ideological frameworks** in response to information about corruption prior to the election?

# Summary of the Results

**Does information about corruption affect politicians' communication?**

Do politicians modify their **agenda** in response to information about corruption prior to the election?

Do politicians modify their **ideological frameworks** in response to information about corruption prior to the election?

| **Incumbents** | | **Challengers** |
|---|---|---|
| | **Agenda** | |
| ↑ | Overlap | ↑ |
| Conditional on Reputation | Topic Distribution | Conditional on Reputation |

# Summary of the Results

**Does information about corruption affect politicians' communication?**

Do politicians modify their **agenda** in response to information about corruption prior to the election?

Do politicians modify their **ideological frameworks** in response to information about corruption prior to the election?

| **Incumbents** | | **Challengers** |
|---|---|---|
| | **Agenda** | |
| ↑ | Overlap | ↑ |
| Conditional on Reputation | Topic Distribution | Conditional on Reputation |
| | **Ideological Positioning** | |
| Conditional on Reputation | Populism | Conditional on Reputation |
| No | Extremeness | Conditional on Reputation |

# Final Remarks

- Revealing information affects the issues politicians focus on (they are responsive).

# Final Remarks

- Revealing information affects the issues politicians focus on (they are responsive).
- Engagement in topics depends on reputation shocks.

# Final Remarks

- Revealing information affects the issues politicians focus on (they are responsive).
- Engagement in topics depends on reputation shocks.
- Information about corruption also affects ideological framework.

# Final Remarks

- Revealing information affects the issues politicians focus on (they are responsive).
- Engagement in topics depends on reputation shocks.
- Information about corruption also affects ideological framework.
- Does this mean more polarization? (Gentzkow et al., 2019)

# Final Remarks

- Revealing information affects the issues politicians focus on (they are responsive).
- Engagement in topics depends on reputation shocks.
- Information about corruption also affects ideological framework.
- Does this mean more polarization? (Gentzkow et al., 2019)
- Role of the media (Avis et al., 2018)

# Final Remarks

- Revealing information affects the issues politicians focus on (they are responsive).
- Engagement in topics depends on reputation shocks.
- Information about corruption also affects ideological framework.
- Does this mean more polarization? (Gentzkow et al., 2019)
- Role of the media (Avis et al., 2018)
- We knew monitoring interventions affect corruption.
- Affect responsiveness and political climate.

## Thank you!

guillelezama@pitt.edu
guillelezama.netlify.app

# References I


Abou-Chadi, T., Green-Pedersen, C., & Mortensen, P. B. (2020). Parties' policy adjustments in response to changes in issue saliency. *West European Politics*, *43*(4), 749–771.

Amorim, G. (2022). *Monitoring transfers to public health: Evidence from randomized audits in brazil* (Tech. Rep.).

Aragonès, E., Castanheira, M., & Giani, M. (2015). Electoral competition through issue selection. *American journal of political science*, *59*(1), 71–90.

Avis, E., Ferraz, C., & Finan, F. (2018). Do government audits reduce corruption? estimating the impacts of exposing corrupt politicians. *Journal of Political Economy*, *126*(5), 1912–1964.

Batista Pereira, F., Bueno, N. S., Nunes, F., & Pavão, N. (2022). Fake news, fact checking, and partisanship: the resilience of rumors in the 2018 brazilian elections. *The Journal of Politics*, *84*(4), 2188–2201.

Berman, S. (2021). The causes of populism in the west. *Annual Review of Political Science*, *24*, 71–88.

Bernhardt, D., Buisseret, P., & Hidir, S. (2020). The race to the base. *American Economic Review*, *110*(3), 922–42.

# References II


Bolognesi, B., Ribeiro, E., & Codato, A. (2022). A new ideological classification of brazilian political parties. *Dados*, *66*.

Buisseret, P., & Van Weelden, R. (2022). Polarization, valence, and policy competition. *American Economic Review: Insights*, *4*(3), 341–352.

Cavalcanti, F., Daniele, G., & Galletta, S. (2018). Popularity shocks and political selection. *Journal of Public Economics*, *165*, 201–216.

Clayton, K., Davis, N. T., Nyhan, B., Porter, E., Ryan, T. J., & Wood, T. J. (2021). Elite rhetoric can undermine democratic norms. *Proceedings of the National Academy of Sciences*, *118*(23), e2024125118.

Colonnelli, E., & Prem, M. (2020). Corruption and firms. *Available at SSRN 2931602*.

Dragu, T., & Fan, X. (2016). An agenda-setting theory of electoral competition. *The Journal of Politics*, *78*(4), 1170–1183.

Ferraz, C., & Finan, F. (2008). Exposing corrupt politicians: the effects of brazil's publicly released audits on electoral outcomes. *The Quarterly journal of economics*, *123*(2), 703–745.

Ferraz, C., & Finan, F. (2011). Electoral accountability and corruption: Evidence from the audits of local governments. *American Economic Review*, *101*(4), 1274–1311.

# References III


Gennaro, G., Lecce, G., & Morelli, M. (2021). Mobilization and the strategy of populism theory and evidence from the united states.

Gentzkow, M., Shapiro, J. M., & Taddy, M. (2019). Measuring group differences in high-dimensional choices: method and application to congressional speech. *Econometrica*, *87*(4), 1307–1340.

Gonzales, M. (2021). Politics never end: Public employment e ects of increased transparency.

Groseclose, T., & Milyo, J. (2005). A measure of media bias. *The Quarterly Journal of Economics*, *120*(4), 1191–1237.

Guriev, S., & Papaioannou, E. (2022). The political economy of populism. *Journal of Economic Literature*, *60*(3), 753–832.

Hobbs, W., & Lajevardi, N. (2019). Effects of divisive political campaigns on the day-to-day segregation of arab and muslim americans. *American Political Science Review*, *113*(1), 270–276.

Lauletta, M., Rossi, M., & Ruzzier, C. (2020). *Audits and the quality of government* (Tech. Rep.). (Working Paper N 141, Universidad de San Andrés. Available at https://webacademicos.udesa.edu.ar/pub/econ/doc141.pdf)

# References IV


Laver, M., Benoit, K., & Garry, J. (2003). Extracting policy positions from political texts using words as data. *American political science review*, *97*(2), 311–331.

Le Pennec, C. (2022). *Strategic campaign communication: Evidence from 30,000 candidate manifestos* (Tech. Rep.).

Poblete-Cazenave, R. (2021). Reputation shocks and strategic responses in electoral campaigns. *Available at SSRN 3786253*.

Riker, W. H. (1996). *The strategy of rhetoric: Campaigning for the american constitution*. Yale University Press.

Serra, G. (2010). Polarization of what? a model of elections with endogenous valence. *The Journal of Politics*, *72*(2), 426–437.

Snyder Jr, J. M., & Strömberg, D. (2010). Press coverage and political accountability. *Journal of political Economy*, *118*(2), 355–408.

Tarouco, G. d. S., & Madeira, R. M. (2015). Os partidos brasileiros segundo seus estudiosos: análise de um expert survey. *Civitas-Revista de Ciências Sociais*, *15*, e24–e39.

Williams, L. K., Seki, K., & Whitten, G. D. (2016). You've got some explaining to do the influence of economic conditions and spatial competition on party strategy. *Political Science Research and Methods*, *4*(1), 47–63.

# Manifestos in the News

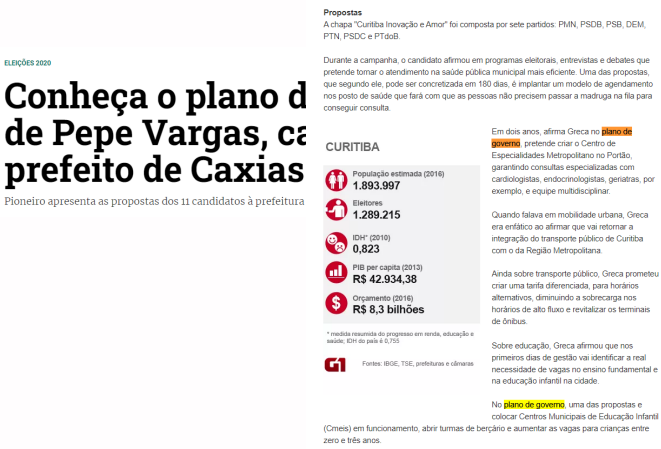
ELEIÇÕES 2020

## Conheça o plano de governo de Pepe Vargas, candidato a prefeito de Caxias

Pioneiro apresenta as propostas dos 11 candidatos à prefeitura de Caxias

▸ Back to Background ▸ Back to Data

# Manifestos in the News



ELEIÇÕES 2020

## Conheça o plano d
## de Pepe Vargas, ca
## prefeito de Caxias

Pioneiro apresenta as propostas dos 11 candidatos à prefeitura

**Propostas**

A chapa "Curitiba Inovação e Amor" foi composta por sete partidos: PMN, PSDB, PSB, DEM, PTN, PSDC e PTdoB.

Durante a campanha, o candidato afirmou em programas eleitorais, entrevistas e debates que pretende tomar o atendimento na saúde pública municipal mais eficiente. Uma das propostas, que segundo ele, pode ser concretizada em 180 dias, é implantar um modelo de agendamento nos posto de saúde que fará com que as pessoas não precisem passar a madruga na fila para conseguir consulta.

CURITIBA

População estimada (2016)
**1.893.997**

Eleitores
**1.289.215**

IDH* (2010)
**0,823**

PIB per capita (2013)
**R$ 42.934,38**

Orçamento (2016)
**R$ 8,3 bilhões**

* medida resumida do progresso em renda, educação e saúde; IDH do país é 0,755

G1 Fontes: IBGE, TSE, prefeituras e câmaras

Em dois anos, afirma Greca no plano de governo, pretende criar o Centro de Especialidades Metropolitano no Portão, garantindo consultas especializadas com cardiologistas, endocrinologistas, geriatras, por exemplo, e equipe multidisciplinar.

Quando falava em mobilidade urbana, Greca era enfático ao afirmar que vai retornar a integração do transporte público de Curitiba com o da Região Metropolitana.

Ainda sobre transporte público, Greca prometeu criar uma tarifa diferenciada, para horários alternativos, diminuindo a sobrecarga nos horários de alto fluxo e revitalizar os terminais de ônibus.

Sobre educação, Greca afirmou que nos primeiros dias de gestão vai identificar a real necessidade de vagas no ensino fundamental e na educação infantil na cidade.

No plano de governo, uma das propostas e colocar Centros Municipais de Educação Infantil (Cmeis) em funcionamento, abrir turmas de berçário e aumentar as vagas para crianças entre zero e três anos.

▸ Back to Background ▸ Back to Data

# Manifestos in the News

## Série traz as propostas de Carlos Eduardo para Natal

Prefeito eleito da capital assume o cargo no dia 1° de janeiro de 2013. Propostas do plano de governo serão mostradas em série de 8 reportagens.

Do G1 RN

Série vai mostrar as promessas de Carlos Eduardo durante a campanha eleitoral (Foto: Alex Regis/Cedida)

O prefeito eleito de Natal, **Carlos Eduardo** (**PDT**), assume o comando da cidade no dia 1º de janeiro de 2013. Dentre os desafios que ele se propôs a enfrentar no Plano de Governo estão problemas nas áreas de saúde, educação, acessibilidade, mobilidade, moradia, esgotamento sanitário, drenagem urbana e coleta regular de lixo.

A série "Copie e Cobre" do **G1** irá apresentar as possíveis soluções que **Carlos Eduardo** apresentou aos eleitores. Serão oito reportagens - que irão ao ar de sexta (28) até a próxima segunda-feira (31).

o plano d
Vargas, ca
de Caxias

tas dos 11 candidatos à prefeitura

**Propostas**

A chapa "Curitiba Inovação e Amor" foi composta por sete partidos: PMN, PSDB, PSB, DEM, PTN, PSDC e PTdoB.

Durante a campanha, o candidato afirmou em programas eleitorais, entrevistas e debates que pretende tomar o atendimento na saúde pública municipal mais eficiente. Uma das propostas, que segundo ele, pode ser concretizada em 180 dias, é implantar um modelo de agendamento nos posto de saúde que fará com que as pessoas não precisem passar a madruga na fila para conseguir consulta.

**CURITIBA**

População estimada (2016)
**1.893.997**

Eleitores
**1.289.215**

IDH* (2010)
**0,823**

PIB per capita (2013)
**R$ 42.934,38**

Orçamento (2016)
**R$ 8,3 bilhões**

* medida resumida do progresso em renda, educação e saúde; IDH do país é 0,755

Fontes: IBGE, TSE, prefeituras e câmaras

Em dois anos, afirma Greca no plano de governo, pretende criar o Centro de Especialidades Metropolitano no Portão, garantindo consultas especializadas com cardiologistas, endocrinologistas, geriatras, por exemplo, e equipe multidisciplinar.

Quando falava em mobilidade urbana, Greca era enfático ao afirmar que vai retornar a integração do transporte público de Curitiba com o da Região Metropolitana.

Ainda sobre transporte público, Greca prometeu criar uma tarifa diferenciada, para horários alternativos, diminuindo a sobrecarga nos horários de alto fluxo e revitalizar os terminais de ônibus.

Sobre educação, Greca afirmou que nos primeiros dias de gestão vai identificar a real necessidade de vagas no ensino fundamental e na educação infantil na cidade.

No plano de governo, uma das propostas e colocar Centros Municipais de Educação Infantil (Cmeis) em funcionamento, abrir turmas de berçário e aumentar as vagas para crianças entre zero e três anos.

▸ Back to Background ▸ Back to Data

# Descriptives: Controls

Table: Controls

| | **Mean** | **SD** |
|---|---|---|
| Income (logs) | 9.19 | 0.71 |
| Share Literate | 85.59 | 8.84 |
| Share Urban | 0.66 | 0.22 |
| radioAM | 0.25 | 0.43 |
| Gini | 0.51 | 0.06 |
| Population | 32590 | 59698 |
| PT | 0.12 | 0.32 |
| Same Party as Governor | 0.15 | 0.36 |
| Count Parties | 3.40 | 1.58 |
| Audit Previous 2008 | 0.26 | 0.44 |
| Audited | 0.09 | 0.29 |

▸ Back to Empirical Analysis

# Descriptives: Issues and Ideological Content

| | Mean | p50 | p90 | se | N |
|---|---|---|---|---|---|
| Bureaucracy | 0.08 | 0.07 | 0.13 | 0.04 | 13344 |
| Social | 0.36 | 0.36 | 0.47 | 0.09 | 13344 |
| Health | 0.10 | 0.10 | 0.16 | 0.05 | 13344 |
| Urban | 0.12 | 0.11 | 0.19 | 0.06 | 13344 |
| Economic | 0.15 | 0.15 | 0.23 | 0.06 | 13344 |
| Crime | 0.02 | 0.02 | 0.04 | 0.02 | 13344 |
| Overlap | 0.11 | 0.10 | 0.19 | 0.07 | 1554 |
| Populism | 0.05 | 0.04 | 0.12 | 0.06 | 13706 |
| Extremeness | 2.47 | 2.14 | 4.77 | 2.18 | 13322 |
| Count | 2150 | 1446 | 4472 | 2578 | 13344 |

‣ Back to Data 1 ‣ Back to Data 2 ‣ Back to Data 3 ‣ Back to Exploratory Analysis ‣ Back to Results 1 ‣ Back to Results 2 ‣ Back to Results 3 ‣ Back to Results 4

# Balance Audits

Table: Add caption

| | mean | sd | mean | sd | dif | se |
|---|---|---|---|---|---|---|
| linc | 9.085503 | .6704504 | 9.030838 | .685051 | -0.0185 | [0.060] |
| Total | 84.28485 | 8.837632 | 83.51522 | 9.333198 | -0.161 | [0.546] |
| shareurb | .6396398 | .2216757 | .6262824 | .2081788 | -0.00451 | [0.014] |
| radioAM | .2 | .4012177 | .1987315 | .399468 | 0.00490 | [0.041] |
| 2010 | .504843 | .0620201 | .5095829 | .0614012 | 0.00200 | [0.004] |
| lpop | 9.406071 | 1.108585 | 9.470213 | 1.101596 | 0.0742 | [0.053] |
| count_par | 2.915152 | 1.236666 | 3.004228 | 1.314837 | 0.0943 | [0.105] |
| Observations | 165 | | 473 | | | |

▸ Back to Empirical Analysis

# Balance Timing

Table: Mean Comparisons between municipalities before the 2012 Election Audited and Municipalities audited after the 2012 election

| | Non-audited | | Audited | | Difference | |
|---|---|---|---|---|---|---|
| | Mean | S.D. | Mean | S.D. | Coefficient | S.E. |
| GDP pc (logs) | 9.09 | 0.65 | 9.04 | 0.68 | -0.006 | [0.045] |
| Literacy (%) | 84.43 | 8.42 | 83.91 | 9.04 | 0.13 | [0.360] |
| % in Urban Areas | 0.63 | 0.21 | 0.63 | 0.21 | 0.004 | [0.013] |
| AM Radio | 0.19 | 0.40 | 0.20 | 0.40 | -0.024 | [0.031] |
| Gini | 0.50 | 0.06 | 0.51 | 0.06 | 0.013 | [0.003] |
| Pop (logs) | 9.42 | 1.04 | 9.47 | 1.09 | 0.002 | [0.057] |
| Number of candidates | 2.87 | 1.21 | 2.91 | 1.20 | 0.072 | [0.112] |
| N | 218 | | 381 | | | |

▸ Back to Empirical Analysis

# Geographical Variation

- Platforms show variation across municipalities.
- Increase in the use of populist vocabulary (**?** dictionary).

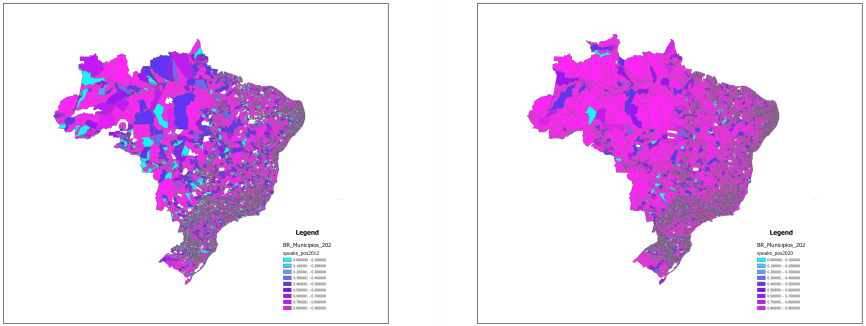



Figure: Percentage of local party manifestos in Brazil that include a populist word (Left: 2012. Right: 2020)

▸ Back to Data

# Examples

**Populism** "It is a summarized and serious platform that I present to the people from serrano, who wish to see true progress in our municipality, coming to put an end to the excesses, corruption and dishonesty of politicians who have no commitment to the people from serrano." (Jesus dos Passos Vaz, Serra/ES)

▸ Back to Data

# Ideological Positioning

- Classification of parties given by the literature, ▸ Parties
- For each word $w$, frequency of $w$ in all the manifestos in the right
  -
  $$p_w^R = \frac{\sum_{j \in R} c_{wj}}{\sum_{j \in R} m_j}$$
  $c_{wj}$ is the count of word $w$ in document $j$; $m_j$ is the word-count of $j$.
  - Using these frequencies, I can compute the right-wing score of each word $w$
  $$s_w^R = \frac{p_w^R}{p_w^R + p_w^L} - \frac{p_w^L}{p_w^R + p_w^L} \tag{1}$$
  - A manifesto $j$ score is then calculated by:
  $$S_j^R = \frac{\sum_w p_{wj}^R \times s_w^R}{S_R} \tag{2}$$
  - Extremeness is computed as $|S_j|$
  - Partisanship is measured by performing this for each party $q$ ($q$ vs. others instead of right vs. left)

▸ Back to Data

# Populism

What is populism?

- the people as a homogeneous and pure entity (e.g., “people”)
- the elite as a homogeneous and corrupt entity (e.g., “establishment”, “corruption” )
- the people and the elite as two antagonistic groups (e.g., “arrogant”, “betray”)
- the need to give power back to the people (e.g., “direct”, “referendum”).

# Populism

What is populism?

- the people as a homogeneous and pure entity (e.g., “people”)
- the elite as a homogeneous and corrupt entity (e.g., “establishment”, “corruption” )
- the people and the elite as two antagonistic groups (e.g., “arrogant”, “betray”)
- the need to give power back to the people (e.g., “direct”, “referendum”).

Procedure

(i) Computed TF-IDF matrix.

(ii) Sum of the TF-IDF values for each word of a document on each dimension

(iii) Standardized Variable

▸ Back to RQ ▸ Back to Data

# Irregularities

Table: Number of Irregularities per Policy Area

| | N | Percentage |
|---|---|---|
| Bureaucracy | 58 | 0.2% |
| Crime | 138 | 0.4% |
| Economics | 1,494 | 4.1% |
| Health | 10,207 | 28.2% |
| Social | 21,644 | 59.8% |
| Urban | 1,818 | 5.0% |
| Other | 811 | 2.2% |

- Source: TSE

▸ Back to Backgroud ▸ Back to Data

# Party Classification: Parties

Table: Parties in the 2012 Election and how they are labeled to measure extremeness

| Left | Center | Right |
|---|---|---|
| PCO | MDB | PTB |
| PSTU | Avante | SDD |
| PSOL | PMN | Podemos |
| PCB | PHS | PRTB |
| PCdoB | PSDB | PRB |
| PT | PSD* | PTC |
| PSB | | PRP |
| PDT | | PR |
| PV | | PSL |
| PPS | | PSC |
| UP* | | DC |
| PPL* | | Progre |
| | | DEM |

a Notes: This table shows distribution of parties in the left, center and right-wing groups following Tarouco and Madeira (2015). They are ordered from left (above) to right (below).

* Parties classified using Bolognesi, Ribeiro, and Codato (2022).

‣ Back to Data

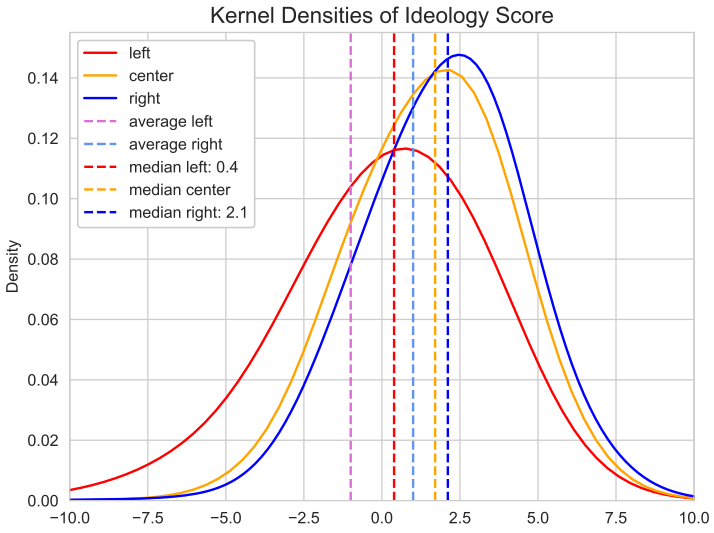
# Party Classification: Words

Table: Words with the lowest (left-wing) and highest (right-wing) scores

| Leftist Words | Right-wing Words |
|---|---|
| cidasc | democratas |
| petista | cristao |
| capitalista | crista |
| petistas | democrata |
| socialismo | republicano |
| inverter | farei |
| deliberativos | indeb |
| desiguais | renova |
| socialistas | equoterapia |
| dominante | grafias |

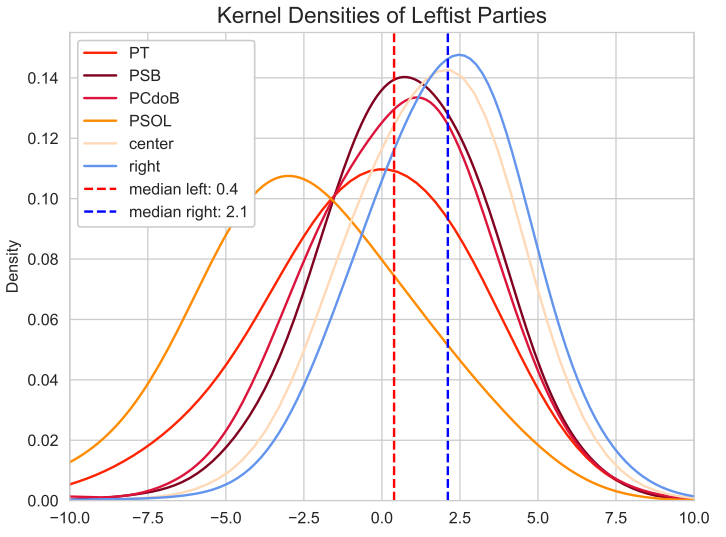
▸ Back to Data

# Party Classification: Densities



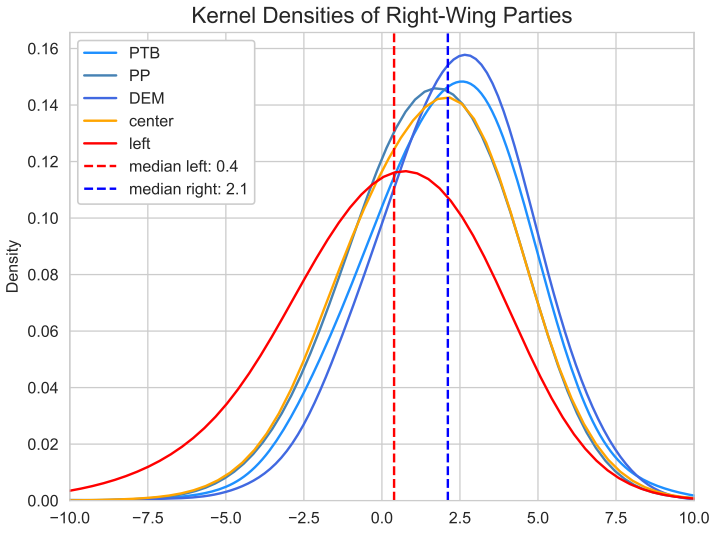

▸ Back to Data

# Party Classification: Densities (Left)



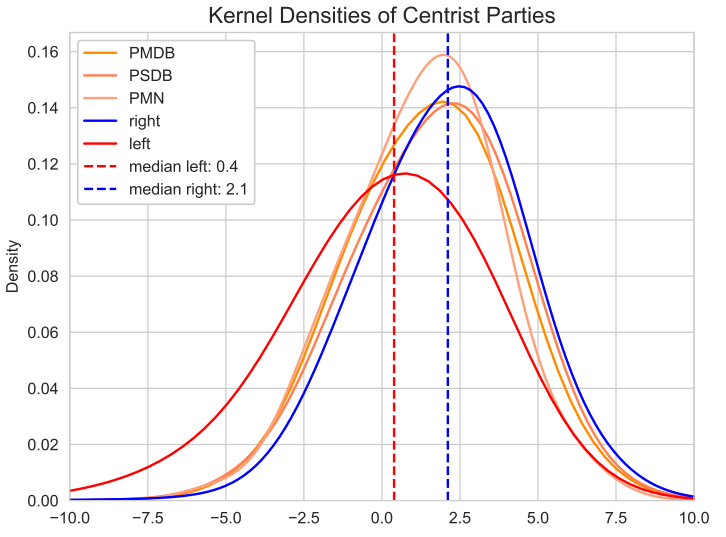

▸ Back to Data

# Party Classification: Densities (Right)



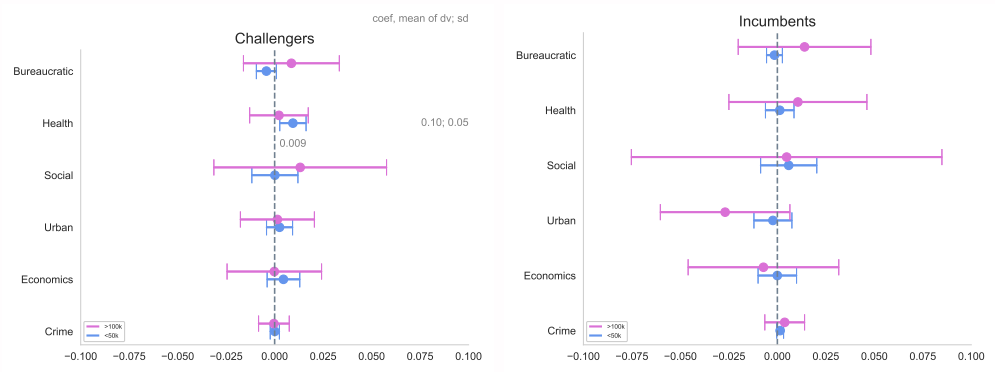

▸ Back to Data

# Party Classification: Densities (Center)




▸ Back to Data

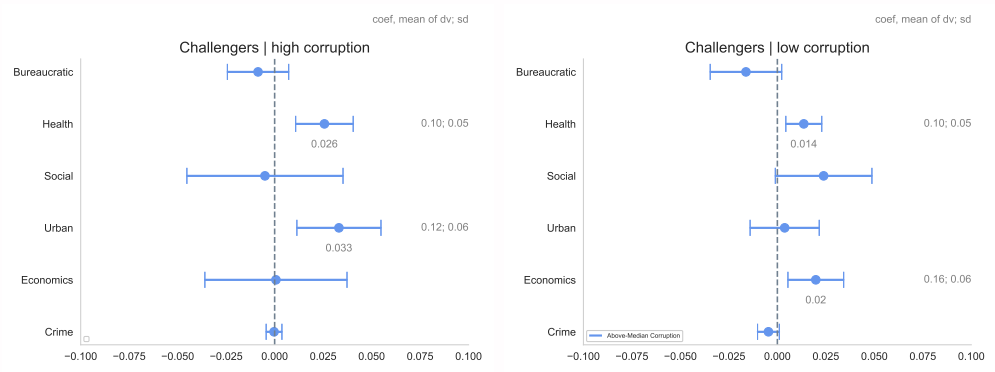
# Effect of the Audit on the Agenda (cond. on Corruption) - Population




95% CI's.

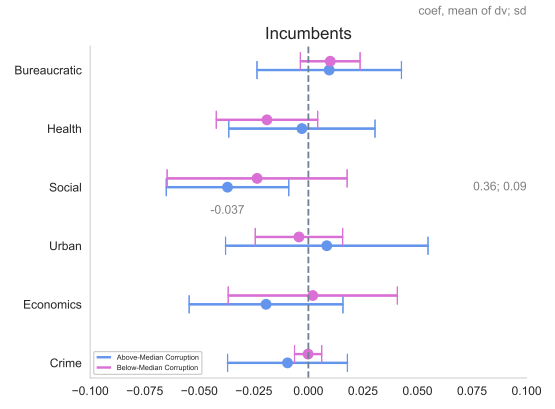
▸ Back to Results

# Effect of the Audit on the Agenda (cond. on Corruption) for Challengers




95% CI's. ▸ Robustness: Corruption in Health ▸ Table Incumbents ▸ Table Challengers ▸ Means

# Effect of the Audit on the Agenda (cond. on Corruption) for Incumbents




95% CI's. ▸ Robustness: Corruption in Health ▸ Table Incumbents ▸ Table Challengers ▸ Means

# Challengers Agenda

Table: Audits on Shares - Challengers

| | (1) Bureaucratic | (2) Social | (3) Health | (4) Urban | (5) Economy | (6) Crime | (7) count | (8) overlapa |
|---|---|---|---|---|---|---|---|---|
| Audited | -0.016* | 0.024* | 0.014*** | 0.004 | 0.020*** | -0.005 | 65.533 | 0.009** |
| | (0.009) | (0.012) | (0.004) | (0.009) | (0.007) | (0.003) | (228.117) | (0.004) |
| corrup_au | 0.008 | -0.029* | 0.012 | 0.029** | -0.019 | 0.004 | 121.428 | 0.006 |
| | (0.011) | (0.016) | (0.007) | (0.013) | (0.016) | (0.004) | (225.223) | (0.006) |
| corr | -0.009 | 0.016 | -0.016* | -0.039** | 0.009 | -0.005 | 4.414 | -0.021*** |
| | (0.013) | (0.014) | (0.009) | (0.015) | (0.015) | (0.003) | (337.023) | (0.005) |
| Observations | 474 | 474 | 474 | 474 | 474 | 474 | 474 | 459 |
| R-squared | 0.116 | 0.138 | 0.204 | 0.189 | 0.137 | 0.167 | 0.619 | 0.856 |
| $\beta_0 + \beta_1$ | -0.00856 | -0.00500 | 0.0257 | 0.0331 | 0.000665 | -0.000311 | 187 | 0.0155 |
| pval | 0.271 | 0.798 | 0.00181 | 0.00471 | 0.970 | 0.874 | 0.226 | 0.000605 |

Robust standard errors in parentheses
*** p¡0.01, ** p¡0.05, * p¡0.1

▸ Back to Results

# Incumbents Agenda

Table: Audits on Shares - Incumbents

| | (1) Bureaucratic | (2) Social | (3) Health | (4) Urban | (5) Economy | (6) Crime | (7) count | (8) overlapa |
|---|---|---|---|---|---|---|---|---|
| Audited | 0.010 | -0.023 | -0.019 | -0.004 | 0.002 | -0.000 | 66.836 | 0.012* |
| | (0.007) | (0.020) | (0.011) | (0.010) | (0.019) | (0.003) | (264.176) | (0.007) |
| corrup_au | -0.000 | -0.014 | 0.016 | 0.013 | -0.021 | -0.009 | -109.060 | 0.005 |
| | (0.016) | (0.025) | (0.020) | (0.022) | (0.024) | (0.013) | (510.371) | (0.011) |
| corr | -0.002 | -0.004 | 0.000 | -0.007 | 0.023 | 0.008 | 133.891 | -0.018 |
| | (0.017) | (0.029) | (0.016) | (0.022) | (0.019) | (0.012) | (706.177) | (0.013) |
| Observations | 257 | 257 | 257 | 257 | 257 | 257 | 257 | 248 |
| R-squared | 0.225 | 0.165 | 0.227 | 0.368 | 0.213 | 0.168 | 0.788 | 0.846 |
| $\beta_0 + \beta_1$ | 0.00955 | -0.0371 | -0.00298 | 0.00843 | -0.0194 | -0.00957 | -42.22 | 0.0172 |
| pval | 0.553 | 0.0124 | 0.854 | 0.708 | 0.264 | 0.475 | 0.920 | 0.0270 |

Robust standard errors in parentheses
*** p¡0.01, ** p¡0.05, * p¡0.1

▸ Back to Results

# Challengers Agenda, Cases on same Area

Table: Audits on Shares - Challengers

| VARIABLES | (1) Bureaucratic | (2) Social | (3) Health | (4) Urban | (5) Economy | (6) Crime |
|---|---|---|---|---|---|---|
| Audited | -0.014** | 0.007 | 0.012* | 0.009 | 0.011 | -0.004* |
| | (0.007) | (0.016) | (0.006) | (0.008) | (0.008) | (0.002) |
| corrup_au | 0.016 | 0.012 | 0.011 | 0.001 | 0.009 | 0.006 |
| | (0.016) | (0.019) | (0.014) | (0.007) | (0.013) | (0.007) |
| corr | | -0.018 | -0.001 | | 0.007 | |
| | | (0.016) | (0.012) | | (0.013) | |
| Observations | 474 | 474 | 474 | 474 | 474 | 474 |
| R-squared | 0.117 | 0.136 | 0.207 | 0.183 | 0.146 | 0.169 |
| $\beta_0 + \beta_1$ | 0.00178 | 0.0190 | 0.0235 | 0.0105 | 0.0198 | 0.00247 |
| pval | 0.928 | 0.184 | 0.0378 | 0.255 | 0.0684 | 0.731 |

Robust standard errors in parentheses
*** p¡0.01, ** p¡0.05, * p¡0.1

▸ Back to Results

# Challengers Agenda, Cases on same Area

Table: Audits on Shares - Incumbents

| | (1) Bureaucratic | (2) Social | (3) Health | (4) Urban | (5) Economy | (6) Crime | (7) count | (8) overlapa |
|---|---|---|---|---|---|---|---|---|
| Audited | 0.010 | -0.023 | -0.019 | -0.004 | 0.002 | -0.000 | 66.836 | 0.012* |
| | (0.007) | (0.020) | (0.011) | (0.010) | (0.019) | (0.003) | (264.176) | (0.007) |
| corrup_au | -0.000 | -0.014 | 0.016 | 0.013 | -0.021 | -0.009 | -109.060 | 0.005 |
| | (0.016) | (0.025) | (0.020) | (0.022) | (0.024) | (0.013) | (510.371) | (0.011) |
| corr | -0.002 | -0.004 | 0.000 | -0.007 | 0.023 | 0.008 | 133.891 | -0.018 |
| | (0.017) | (0.029) | (0.016) | (0.022) | (0.019) | (0.012) | (706.177) | (0.013) |
| Observations | 257 | 257 | 257 | 257 | 257 | 257 | 257 | 248 |
| R-squared | 0.225 | 0.165 | 0.227 | 0.368 | 0.213 | 0.168 | 0.788 | 0.846 |
| $\beta_0 + \beta_1$ | 0.00955 | -0.0371 | -0.00298 | 0.00843 | -0.0194 | -0.00957 | -42.22 | 0.0172 |
| pval | 0.553 | 0.0124 | 0.854 | 0.708 | 0.264 | 0.475 | 0.920 | 0.0270 |

Robust standard errors in parentheses
*** p¡0.01, ** p¡0.05, * p¡0.1

▸ Back to Results

# Political Positioning - Challengers

Table: Effect of the Audit on Political Positioning

| VARIABLES | (1) Standardized values of populis | (2) extremeness_med | (3) partisan_prob |
|---|---|---|---|
| Audited | -0.301** | -0.661** | -0.254 |
| | (0.138) | (0.244) | (0.266) |
| corrup_au | 0.388** | 0.348 | 0.194 |
| | (0.154) | (0.465) | (0.611) |
| corr | -0.279** | -0.026 | 0.105 |
| | (0.110) | (0.368) | (0.630) |
| Observations | 474 | 474 | 422 |
| R-squared | 0.134 | 0.154 | 0.126 |
| $\beta_0 + \beta_1$ | 0.0864 | -0.313 | -0.0599 |
| pval | 0.569 | 0.546 | 0.894 |

Robust standard errors in parentheses
*** p¡0.01, ** p¡0.05, * p¡0.1

▸ Back to Results 3 ▸ Back to Results 4

# Political Positioning - Incumbents

Table: Effect of the Audit on Political Positioning

| VARIABLES | (1)<br>Standardized values of populis | (2)<br>extremeness_med | (3)<br>partisan_prob |
|---|---|---|---|
| Audited | 0.063 | 0.914* | 0.781 |
| | (0.096) | (0.520) | (0.657) |
| corrup_au | 0.273 | -1.466* | -1.881* |
| | (0.170) | (0.721) | (1.048) |
| corr | -0.322 | 1.233* | 1.067 |
| | (0.206) | (0.628) | (1.092) |
| Observations | 257 | 254 | 238 |
| R-squared | 0.283 | 0.157 | 0.148 |
| $\beta_0 + \beta_1$ | 0.336 | -0.552 | -1.100 |
| pval | 0.0298 | 0.430 | 0.302 |

Robust standard errors in parentheses
*** p¡0.01, ** p¡0.05, * p¡0.1

▸ Back to Results 3 ▸ Back to Results 4