Corruption, Intimidation, and Whistleblowing: An Empirical Approach

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Li Wenliang contracted the virus while working at Wuhan Central Hospital

Who is a whistleblower?

"Someone reporting a concern or **disclosing information** on acts and omissions that represent a threat or harm to the public interest that they have come across in the **course of their work**."

The Council of Europe

"Any person who **discloses** serious wrongdoing or other **information** of public interest **should be protected** under whistleblowing laws and their disclosure properly assessed and investigated."

Open Society Foundations

Whistleblowing and Audits

Audits crowd out denunciations (substitutability)

- No need to incentivize whistleblowers to come forward

Audits may increase reports of wrongdoing (complementarity)

- Providing plausible deniability to whistleblowers
- Increase the probability of being heard

Policy relevant: Should we reward whistleblowers or hire auditors?

$\Rightarrow$ Brazilian Audit program and unique data on complaints/denunciations

Literature & Contribution

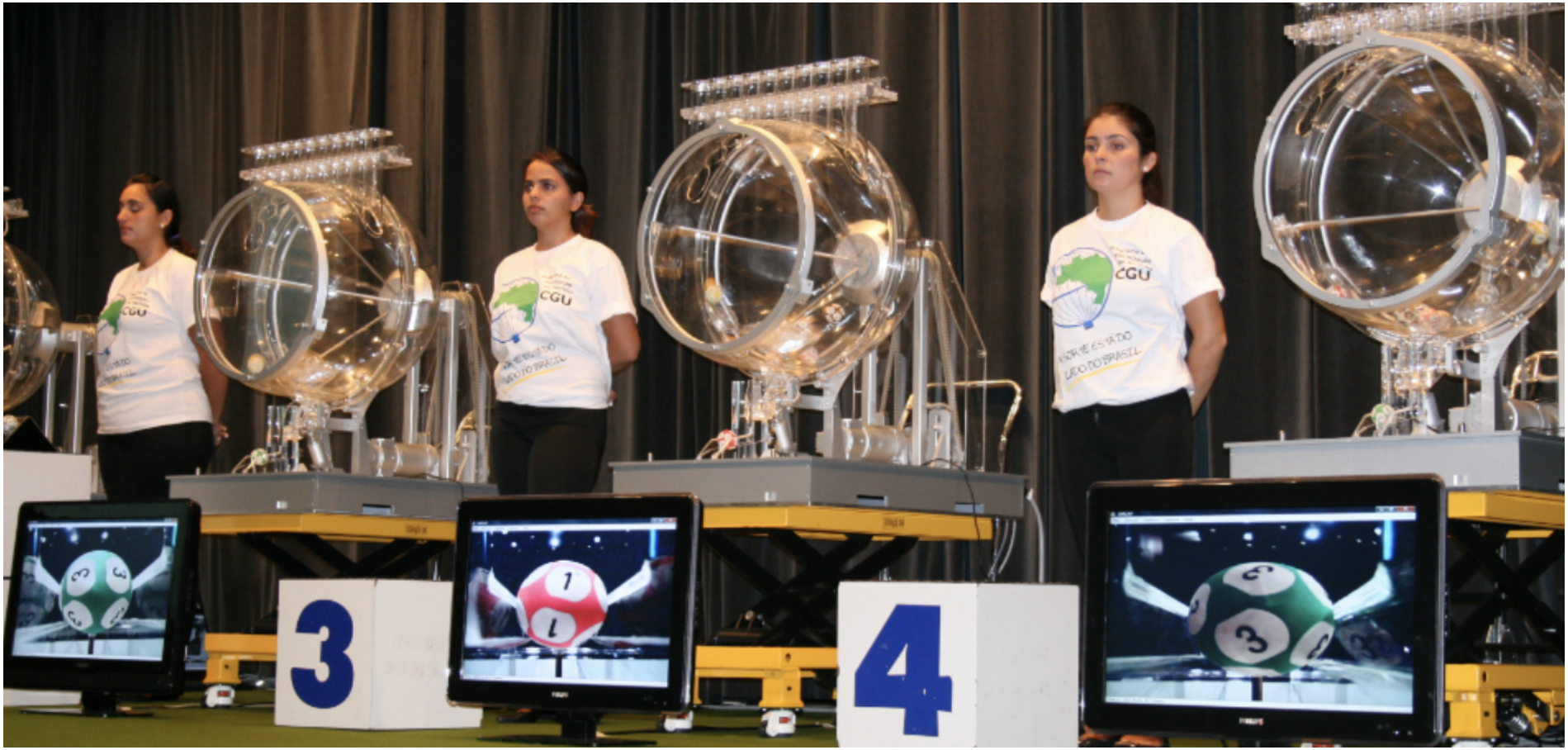
Whistleblower motivation and determinants

- Fiorin (2020), Chassang, Gerard Padro i Miquel (2019); Dyck, Morse, and Zingales (2010)
- Credible empirical evidence on whistleblowing using observational data

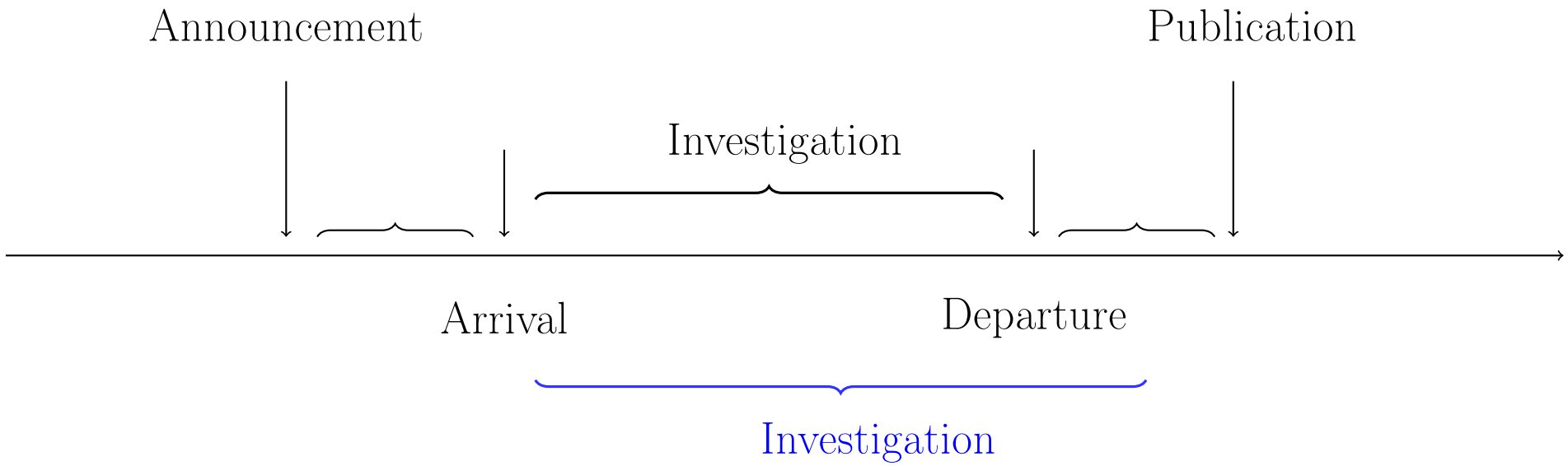
Anti-corruption tools

- Audits as effective tools in the anti-corruption fight (Di Tella and Schargrodsky, 2003; Olken, 2009; Ferraz and Finan, 2008)
- Positive consequences which are to be taken into consideration if we are interested in cost-benefit analysis (Muço, 2022)

The audit program



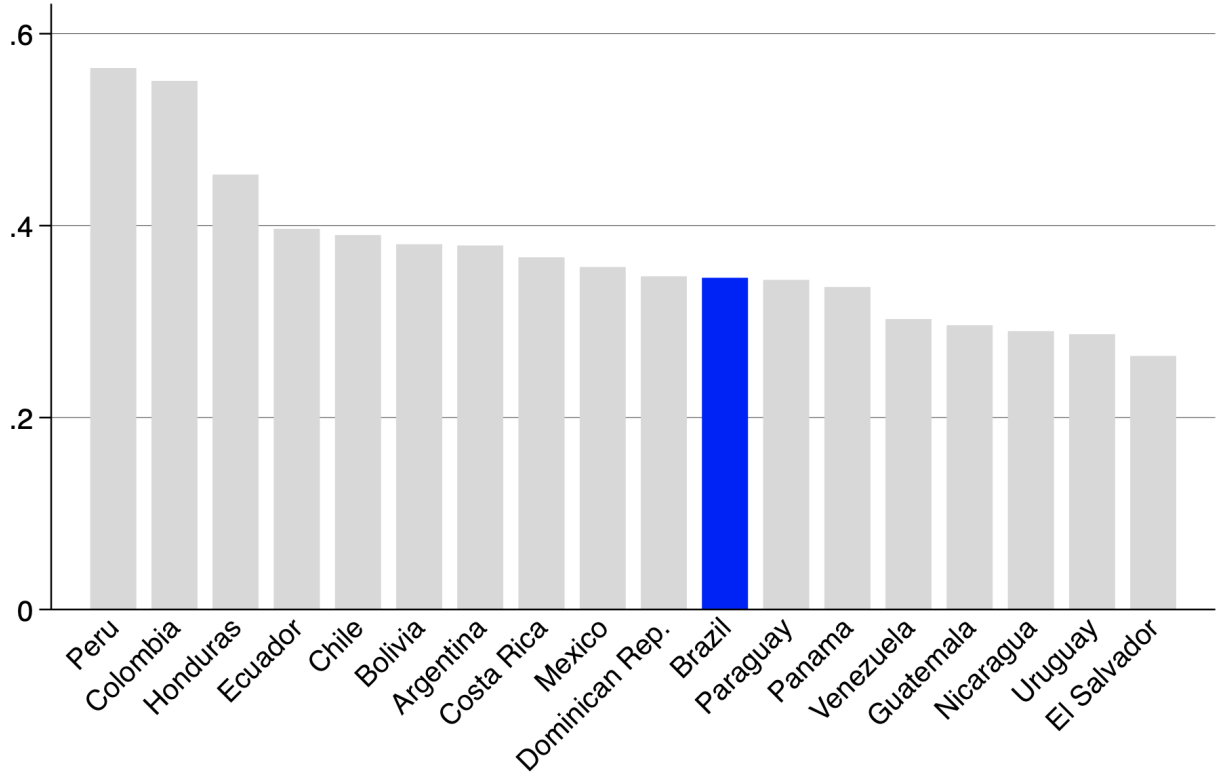
Timeline of the process



Whistleblower protection

- Brazil has no specific whistleblower protection law
- Anti-corruption law was passed in 2013 with some provisions to encourage whistleblowers
  - Not very effective according to Transparency International

Culture of (no)complaints

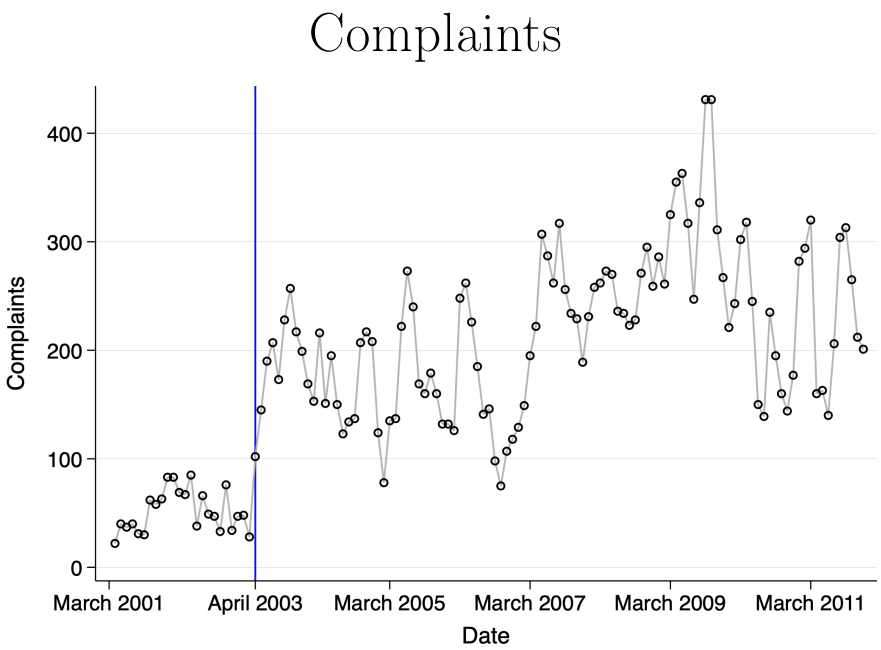


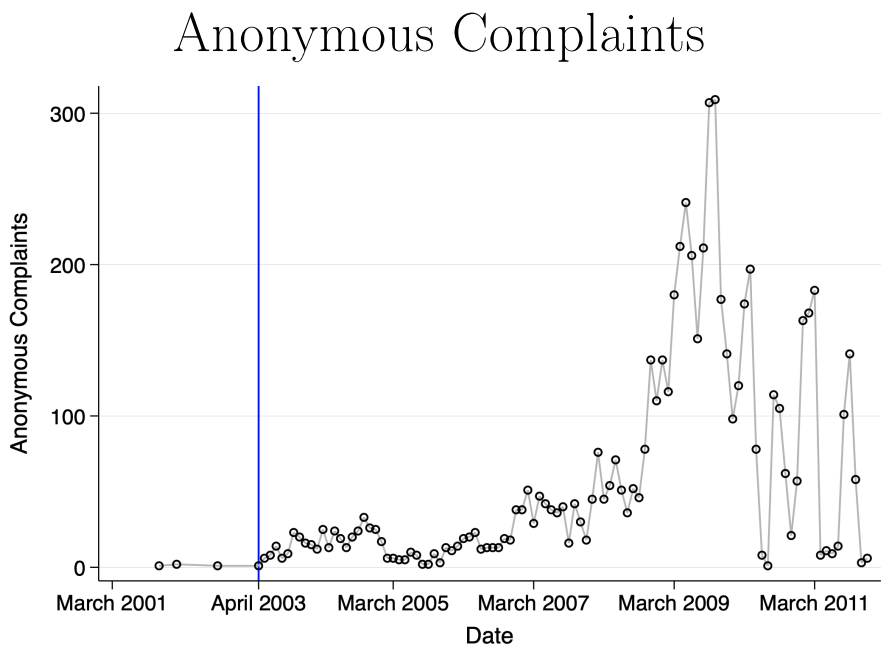
The fraction of citizens that respond yes to the question: "There are different ways to improve things in (country) or to help to prevent them from breaking down. Have you ever done any of the following? Complain about the poor quality of a product or service."

Filing a denunciation

- Complaint – Denuncia: Communication of practice of an unlawful act
  - Try to describe the facts clearly, simply, and objectively
  - All the anonymous reports are evaluated as long as there are sufficient elements that relate to the described facts

Time-series of complaints





Empirical Strategy

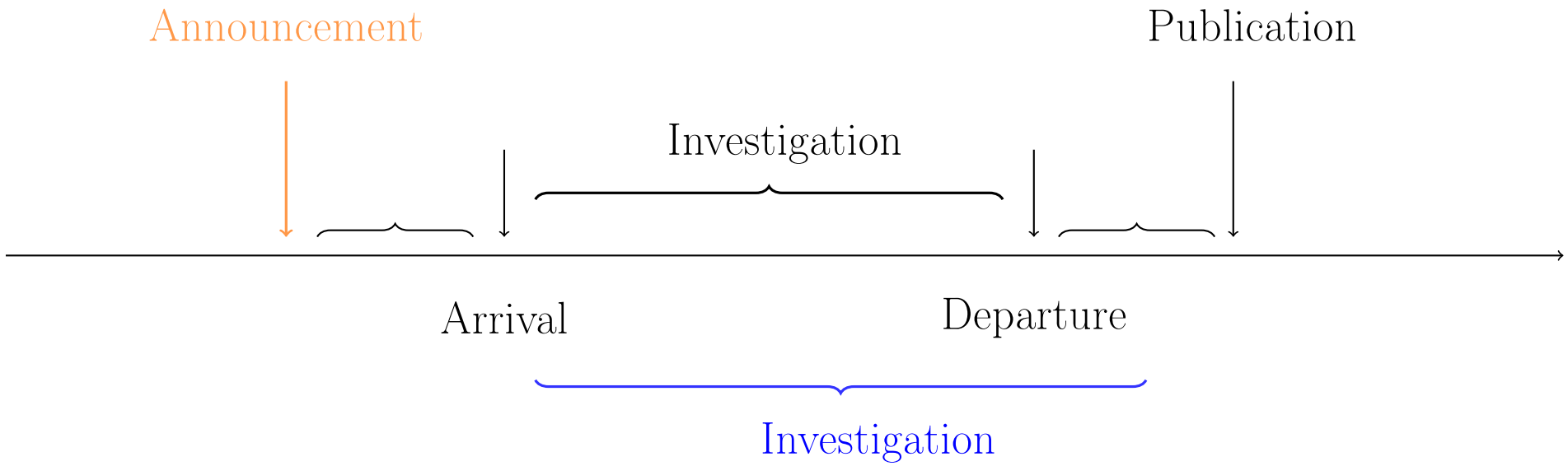
Empirical strategy

I estimate a non-parametric model to understand the effect of the announcement on complaints

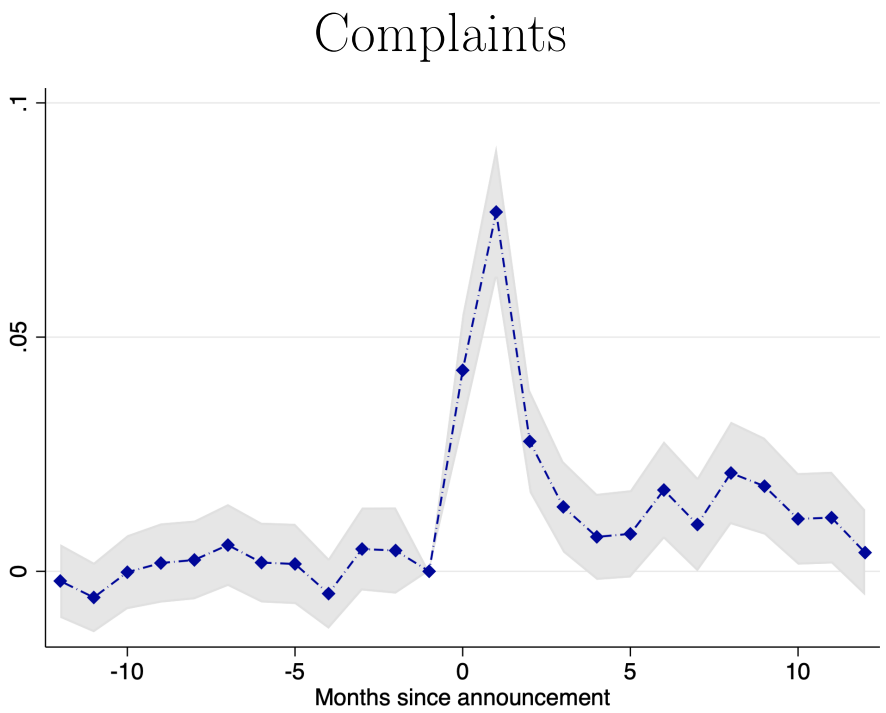
$$Y_{i,t,m} = \sum_{m=-12}^{-2} \beta_w Announced_{i,t,m} + \sum_{m=0}^{12} \beta_w Announced_{i,t,m} + \alpha_i + \lambda_{s,t} + \varepsilon_{i,t,m}$$

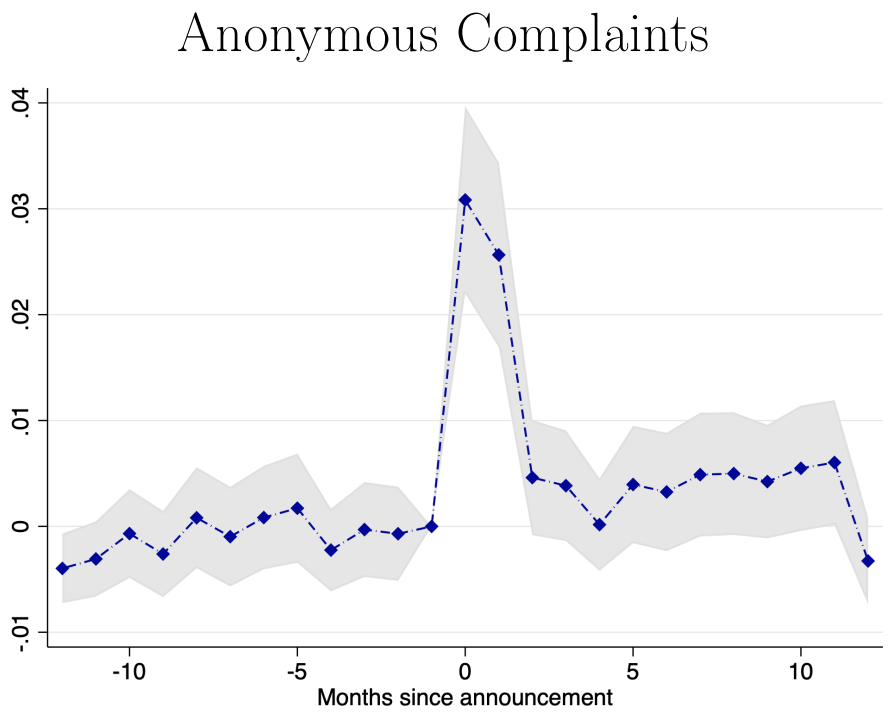
- $Y_{i,t,m}$ equals one if at least a complaint is filed from municipality i in month m of year t
- $Announced_{i,t,m}$ are indicator variables tracking the months that immediately precede and follow that audit announcement in municipality i
- α_i are municipality fixed effects
- $\lambda_{s,t}$ year-state fixed effects
- $\varepsilon_{i,t,m}$ is the idiosyncratic error term
- Standard errors are clustered at the municipality level – treatment level

Timeline of the process



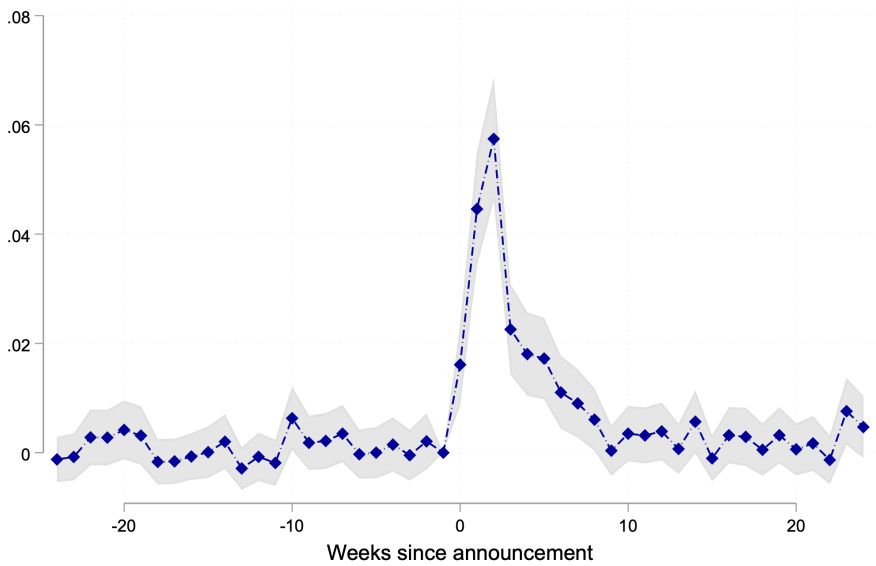
Findings


Complaints
.1
.05
0
-10
-5
0
5
10
Months since announcement

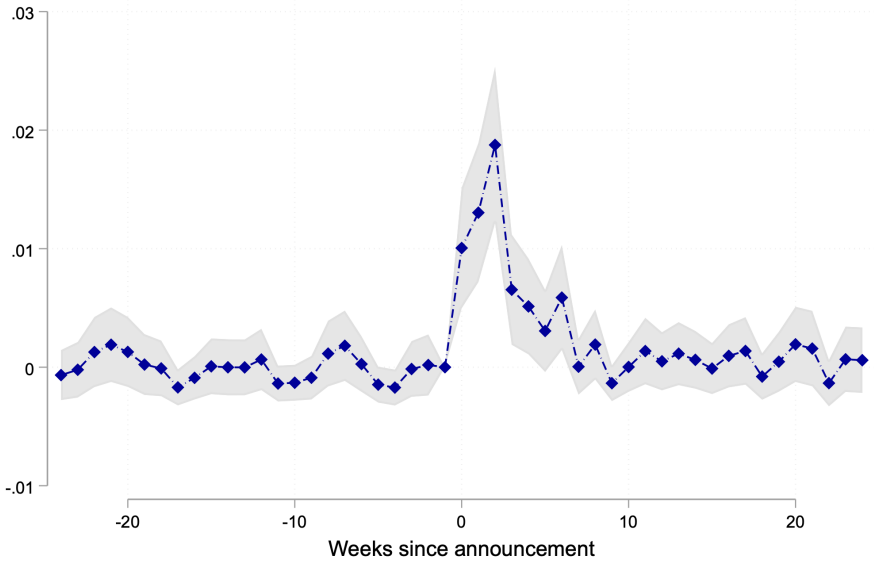

Anonymous Complaints
.04
.03
.02
.01
0
-.01
-10
-5
0
5
10
Months since announcement

Findings – week level

Complaints



Anonymous Complaints



Heterogeneous Effects

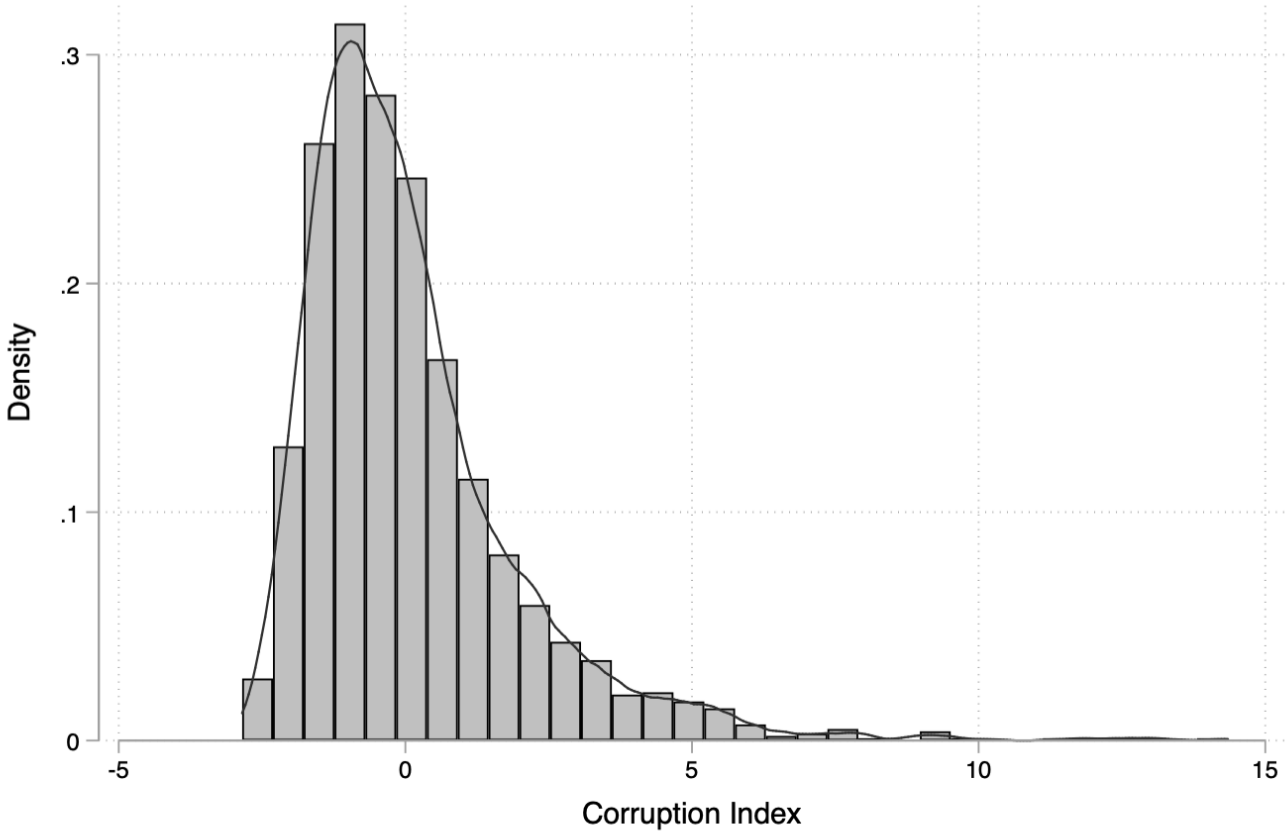
Corruption Level

$$Y_{i,t,m} = \beta_0 + \beta_1 Announced_{i,t,m} + \beta_2 \times C_{i,t} + \beta_3 Announced_{i,m} \times C_{i,t} + \alpha_i + \lambda_{s,t} + \varepsilon_{i,m}$$

- $C_{i,t}$ is the underlying corruption in the municipality in the year t uncovered from an audit in the municipality during month m and varies at the yearly level
- $Announced_{i,t,m}$ is an indicator variable taking value one within the first three months from the announcement
- β_3 estimates the causal impact of the audit announcement, conditional on the underlying corruption in the municipality

Corruption Measure

Corruption Measure



Silenced channels: Results

	Complaint				Anonymous			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Announced	0.034***	0.034***	0.020***	0.021***	0.012***	0.011***	0.002	0.004
	(0.004)	(0.004)	(0.005)	(0.006)	(0.002)	(0.002)	(0.002)	(0.002)
Corruption	0.008	0.008			-0.009	-0.008		
	(0.007)	(0.007)			(0.006)	(0.006)		
Announced x Corruption	0.006**	0.006**			0.006***	0.005**		
	(0.003)	(0.003)			(0.002)	(0.002)		
Announced x 2Tercile			0.018**	0.019**			0.009**	0.007*
			(0.008)	(0.008)			(0.004)	(0.004)
Announced x 3Tercile			0.025***	0.024***			0.021***	0.017***
			(0.009)	(0.009)			(0.006)	(0.005)
2Tercile			-0.062**	-0.062**			-0.038**	-0.037**
			(0.030)	(0.030)			(0.015)	(0.015)
3Tercile			-0.046*	-0.046*			-0.030*	-0.029*
			(0.025)	(0.025)			(0.016)	(0.016)
Observations	22212	22212	22212	22212	22212	22212	22212	22212
Year FE								
Month FE	✓		✓		✓		✓	
State-Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Year-Month FE		✓		✓		✓		✓

Social Capital

$$Y_{i,t,m} = \beta_0 + \gamma_1 Announced_{i,t,m} + \gamma_2 (Announced_{i,t,m} \times x_i) + \alpha_i + \delta_{m,t} + \varepsilon_{i,t,m}$$

- x_i is an indicator variable that takes value one if literacy rate, the fraction of the urban population, income per capita, and the fraction of the female population is below the Brazilian mean
- γ_2 is the parameter of interest

Social Capital: Results

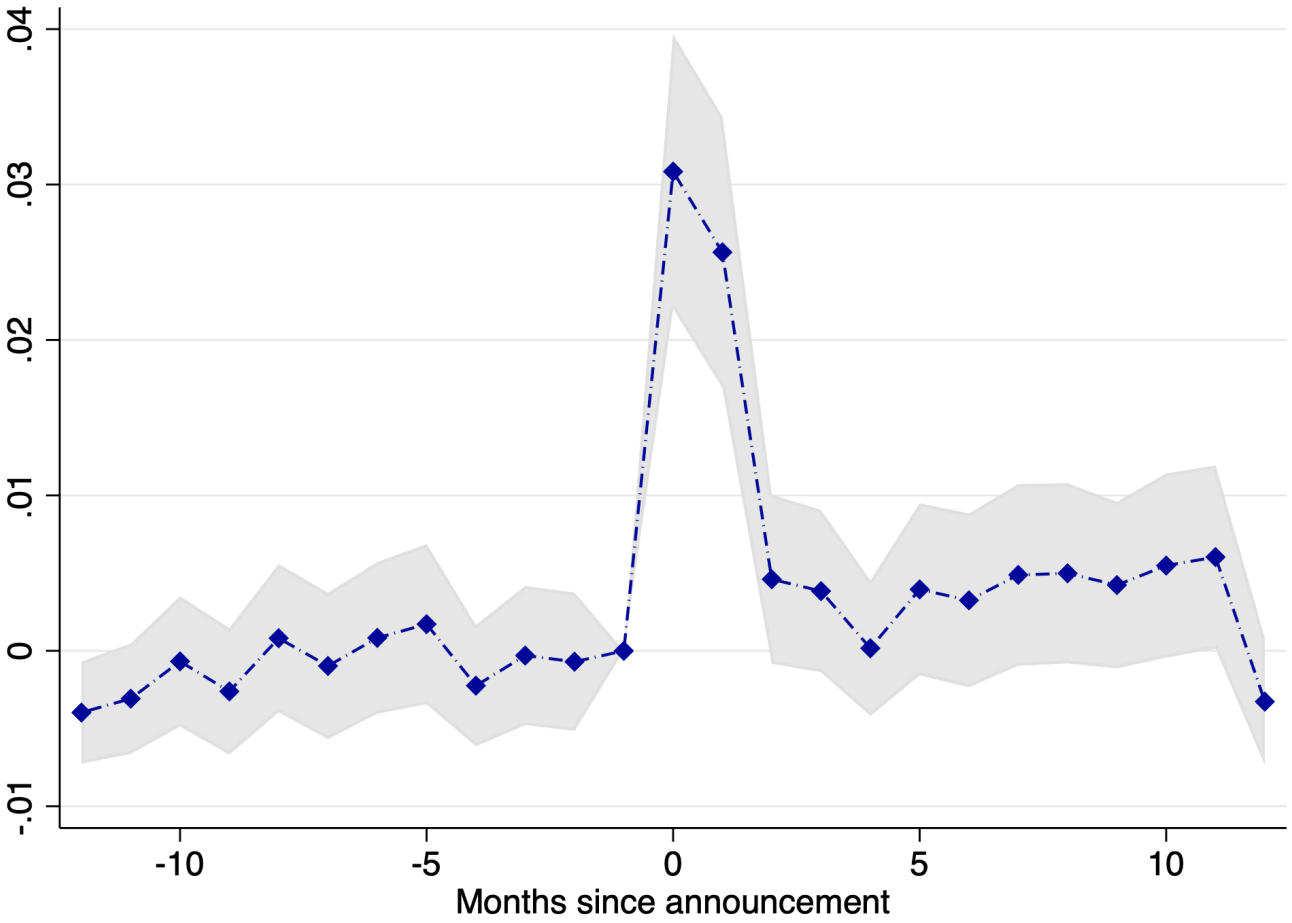
	Complaints			
	(1)	(2)	(3)	(4)
Announced	0.027***	0.038***	0.028***	0.027***
	(0.004)	(0.004)	(0.005)	(0.004)
Announced $\times \mathbb{1}$(Literacy rate)	0.027***			
	(0.007)			
Announced $\times \mathbb{1}$(Urban population)		0.004		
		(0.007)		
Announced $\times \mathbb{1}$(Income per capita)			0.019***	
			(0.006)	
Announced $\times \mathbb{1}$(Male population)				0.022***
				(0.006)
Observations	731676	731676	731676	731676
Year FE	✓	✓	✓	✓
Month	✓	✓	✓	✓

Alternative Interpretations

Punishment reduction

- Anticipating the investigation are more likely to report wrongdoing as a preventive measure to negotiate a fine reduction
- Clean Company Act – companies self-report corrupt practices hoping for a reduction in the severity of the punishment

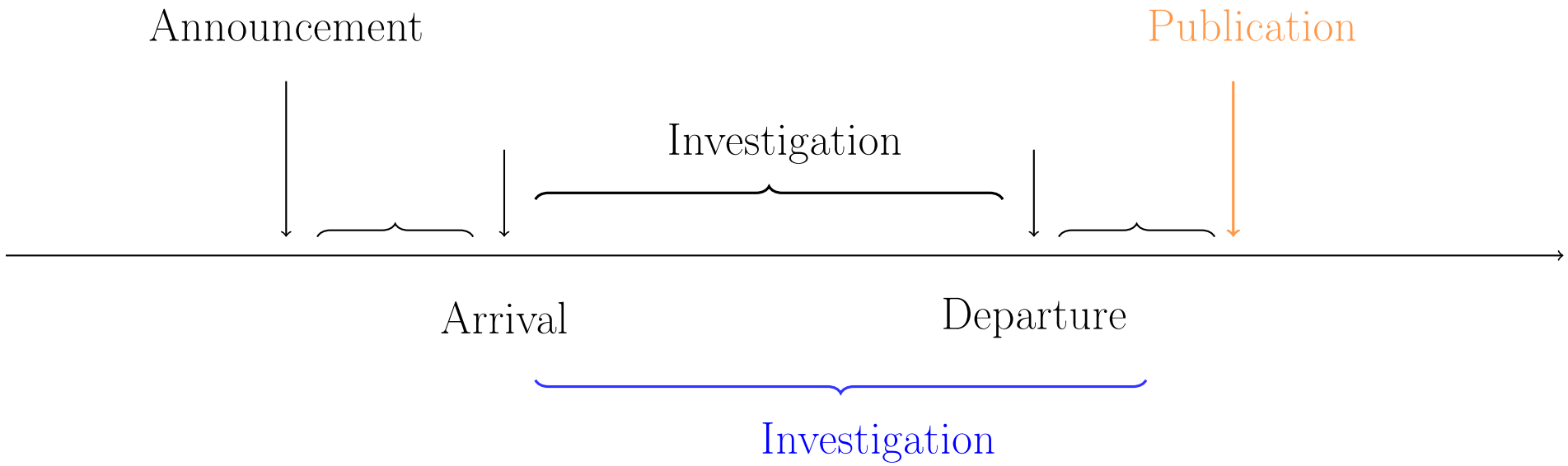
Anonymous Complaints



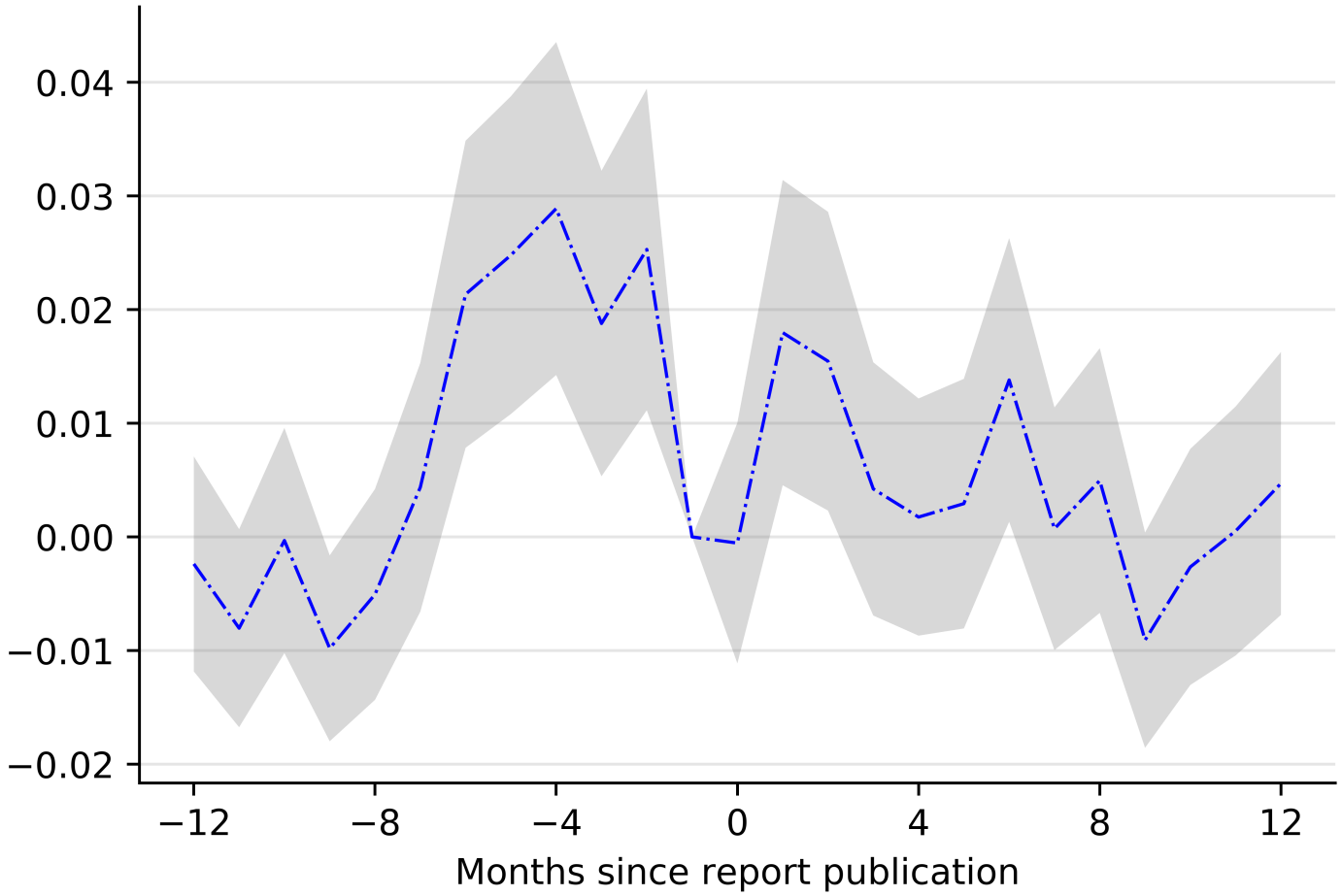
Reminder about past corrupt practices

- People are reminded about corrupt practices, increases likelihood of reporting
  - If this is the only explanation, we'd expect the spike-decay pattern to occur after publication of the report

Timeline of the process



Publication of the audit reports



Conclusion

Conclusions

Audits increase the incentives of individuals to blow the whistle. When an audit is announced:

- The likelihood of filing a complaint is 2-3 times higher than the pre-audit mean
- The likelihood of filing an anonymous complaint is 4-5 times higher than the pre-audit mean
- Areas with less social capital and more corruption are more likely to report if an audit is announced

Relevant for policy making, designing institutions, deciding on expensive programs such as audits