

Corruption, Intimidation, and Whistleblowing: Empirical Approach

Arieda Muço
Central European University

Power, corruption and lies

● Culture of illegal payments' at Sun, say police
● Brooks told five years ago of 100 hatching victims

By David Leigh

Report that the Sun's long history of illegal payments to MPs and other politicians has been exposed by a police officer. The paper's editor, Richard Desmond, has been accused of a cover-up. The police officer, who has been named as a source, says that he was told by a senior Sun editor that the paper had paid off 100 MPs in the last five years. The police officer says that he was told that the payments were made to ensure that the Sun's coverage of the government was favourable.

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The moment a cynical press was stopped in its tracks

By Nick Davies

The glacial pace of the investigation into the Sun's alleged payments to MPs has been a source of frustration for many. The police officer, who has been named as a source, says that he was told by a senior Sun editor that the paper had paid off 100 MPs in the last five years.

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THE TIMES

World Cup of fraud

● 14 Fifa executives accused of corruption after dawn raids ● Pressure grows on Blatter as scandal engulfs football

By Charles Bremner and Matt Bennett

European football chiefs must be held to account for the corruption that has engulfed the game, says the Times. The paper's investigation into the Fifa scandal has revealed that the governing body has been accused of a cover-up. The police officer, who has been named as a source, says that he was told by a senior Sun editor that the paper had paid off 100 MPs in the last five years.



understand as these events are, it would be a mistake to see them as a sign of a general decline in the integrity of the game. The police officer, who has been named as a source, says that he was told by a senior Sun editor that the paper had paid off 100 MPs in the last five years.

The Washington Post

Thursday, June 10, 2013
Washington Post, June 10, 2013

Man who leaked NSA secrets steps forward

A REPORTER'S ACCOUNT

To leaker, personal risks were clear

By Barton Gellman

He called me ERASSBANNER, a code name in the double-barreled style of the National Security Agency, where he worked in the signals intelligence directorate.

Veras was the name he chose for himself, "truth teller" in Latin. I asked him early on, without reply, whether he intended to blast at the alternative fates that lay before him. Two British dissenters had used the pseudonym. Clement Walker, a 17th-century detractor of Parliament, died in the brutal confines of the Tower of London. Two centuries later, socialist writer Henry Dunckley adopted "Veras" as his byline over weekly columns in the Manchester Examiner. He was shrewder with totalitarian

and an honorary degree. Edward Joseph Snowden, 29, knew full well the risks he had undertaken and the awesome powers that would soon be arrayed to hunt for him. Pseudonyms were the least of his preoccupations as he contemplated the risks ahead. Snowden was spilling some of the most sensitive secrets of a surveillance apparatus he had grown to distrust. By late last month, he believed he was already "in the X" — exposure imminent. "I understood that I will be made to suffer for my actions, and that the return of this information to the public marks my end," he wrote in early May, before we had our first direct contact. He warned that even journalists who



Before the world knew his name, tech specialist Edward Snowden, 29, now in Hong Kong, drafted a note of explanation. STORY, A4

Risks of outsourcing

Government reliance on private spying contractors comes with costs as well as benefits. A2

A historic leak

Edward Snowden receives praise and criticism as his name joins that of Daniel Ellsberg. A4

EDWARD SNOWDEN: 'I'M NOT GOING TO HIDE'

Booz Allen consultant could face prosecution

By Barton Gellman, Aaron Blake and Greg Miller

A 29-year-old man who says he is a former undercover CIA employee said Sunday that he was the principal source of recent disclosures about top secret National Security Agency programs, exposing himself to possible prosecution in an acknowledgment that had little if any precedent in the long history of U.S. intelligence leaks. Edward Snowden, a tech specialist who has contracted for the NSA and works for the consulting firm Booz Allen Hamilton, was named himself as a source after a string of stories in The Washington Post and the Guardian that detailed previously unknown U.S.

surveillance programs. He said he disclosed secret documents in response to what he described as the systematic surveillance of innocent citizens. In an interview Sunday, Snowden said he is willing to face the consequences of his recent actions. "I'm not going to hide," Snowden told The Post from Hong Kong, where he has been staying. "Allowing the U.S. government to intimidate the people with threats of retaliation for revealing wrongdoing is contrary to the public interest." Asked whether he believes that his disclosures will change anything, he said: "I think they already have. Everyone everywhere now understands how bad things

SURVEILLANCE CONTINUED ON A5

40p

Toxic scandal on our roads

Millions may be driving UK vehicles that breach pollution targets

Transport Secretary demands EU-wide inquiry into car industry

VW sorry after world's largest car-maker is caught rigging tests

Sport

Who can fill Joseph's big boots?

Lifestyle

Michel Roux Jr on his new television series

THE TIMES

Wednesday September 23 (2013) (Subscription: £10.70)

2 London fashion special

The shoes! The bags! The front row!

Volkswagen in meltdown after faked diesel tests

rivers face mass recall as share price crashes

Shang-A-Lang again? Return of the Rollers

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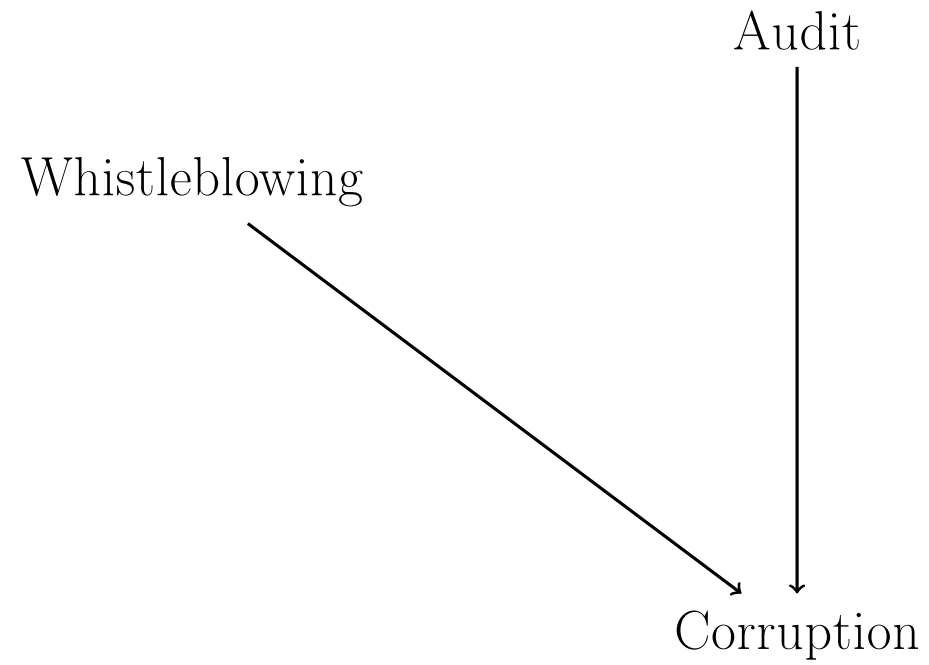
2 London fashion special

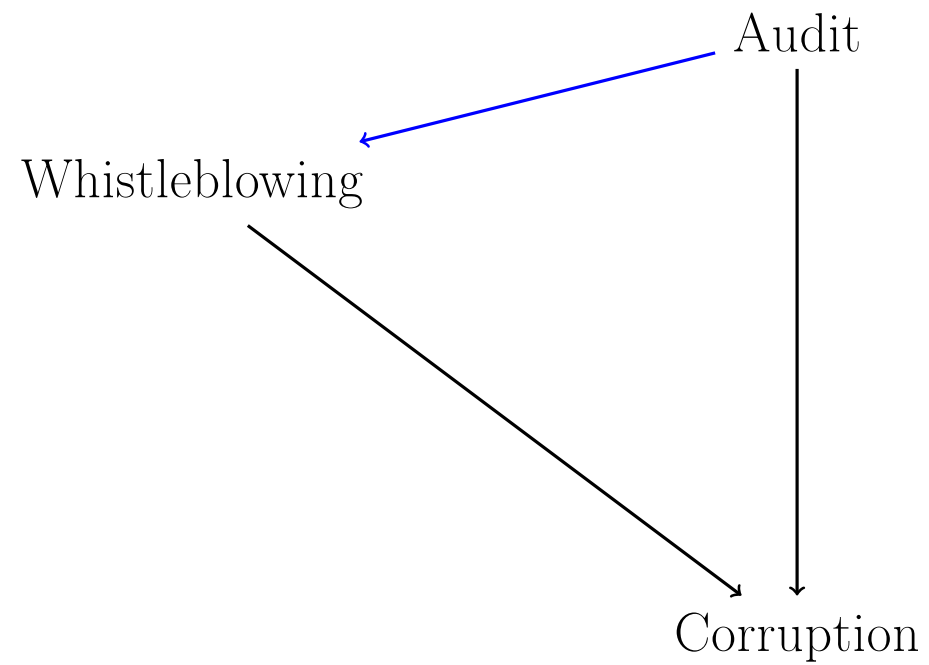
The shoes! The bags! The front row!

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Shang-A-Lang again? Return of the Rollers





Research Question

Do audits incentivize whistleblowing?

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

⇒ Random Audits

Literature & Contribution

First paper to provide credible empirical evidence on whistleblowing

- Chassang, Gerard Padro i Miquel (2018), Dyck, Morse, and Zingales (2010)

Anti-corruption tools

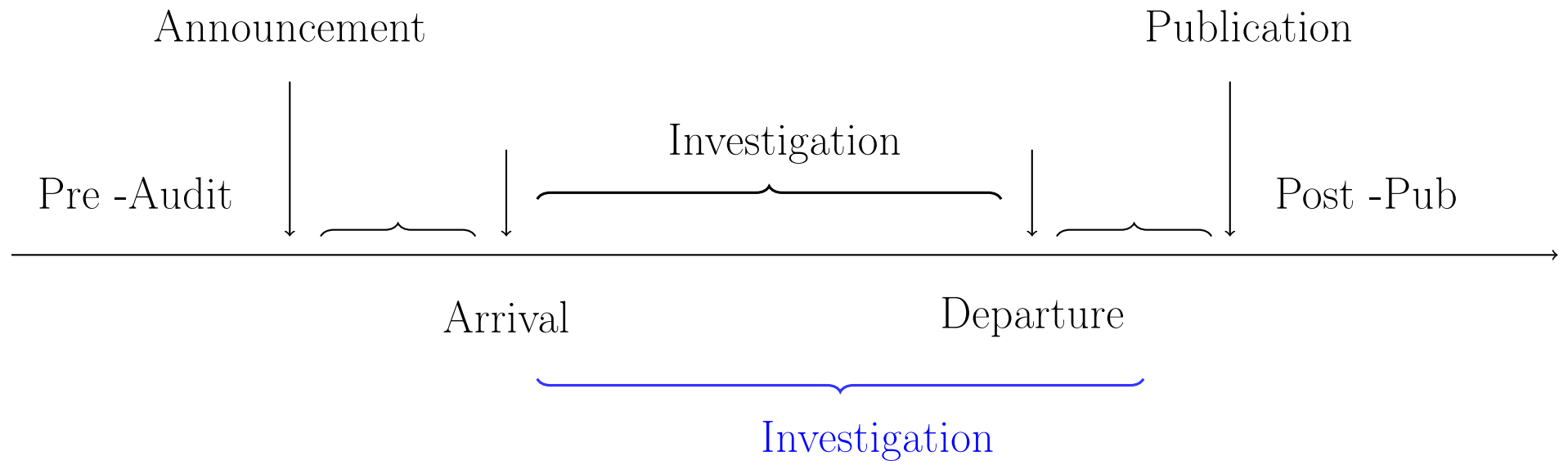
- i.e Reinikka and Svensson (2005), Björkman and Svensson (2009). Audits as effective tools in the anti-corruption fight Di Tella and Schargrodsky (2003); Olken (2009), Ferraz and Finan (2008)
- Positive consequences which should also be taken into consideration for cost benefit analysis Muço (2019)

Institutional Background

Audit Program



Timeline of the process



Whistleblower Protection Law

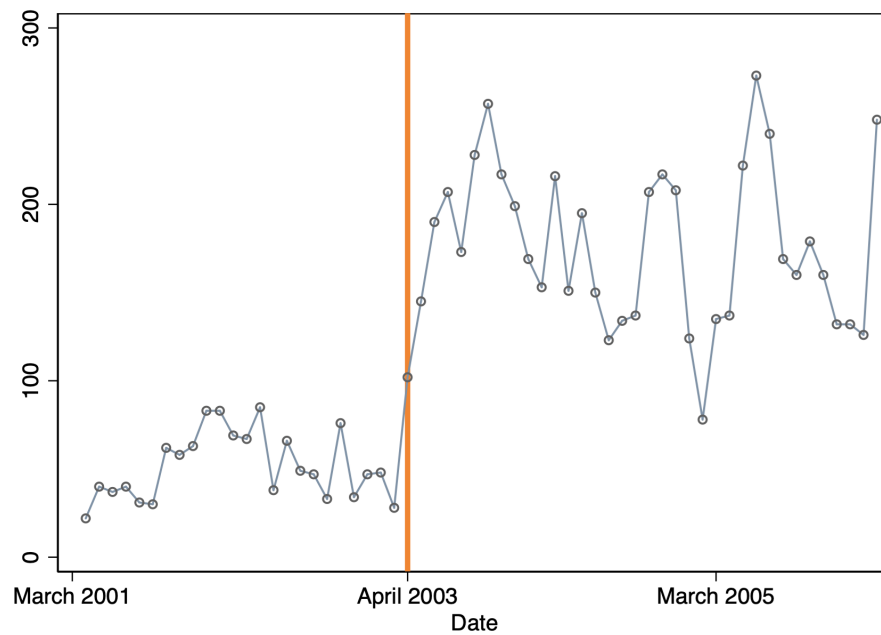
- Brazil has no specific whistleblower protection law
- Anti-corruption law was passed in 2013 with some provisions to encourage whistleblowers
 - Not very effective according to Transparency International

Filing a complaint

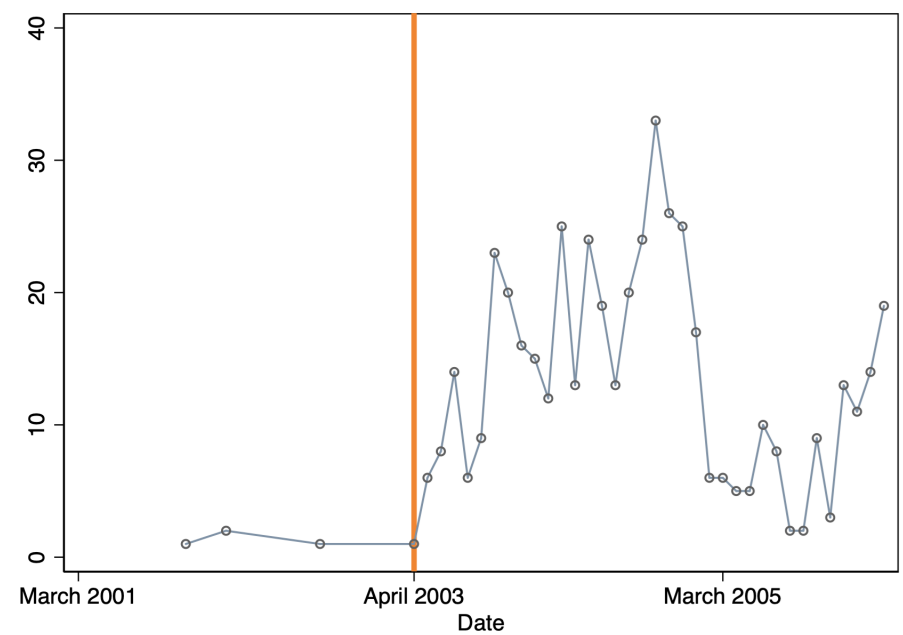
- Complaint: Communication of practice of an unlawful act
 - Try to describe the facts clearly, simply, and objectively
 - All the anonymous reports are evaluated as long as there are sufficient elements that relate to the described facts

Time-series of Complaints Filed

Complaints



Anonymous Complaints



Data

Data

- Complaint Data (CGU) – dependent variable
 - Complaints, Anonymous complaints, Information Requests
 - Daily frequency (2000-2012)
- Audit Data (CGU) – main regressor
 - Date of announcement, publication of the audit report...
 - Audit Reports (arrival, departure, irregularities found)
- Municipal Characteristics (IBGE) – controls

Empirical Strategy

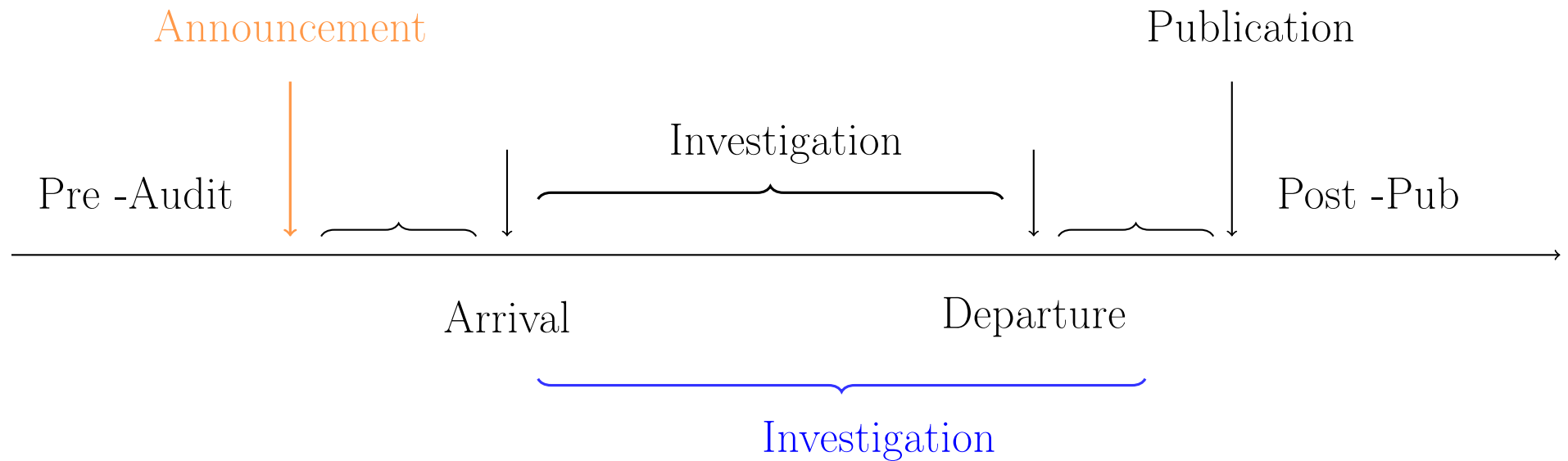
Empirical Strategy

I estimate the following linear model

$$Y_{i,w,t} = \sum_{w=-24}^{-2} \beta_w Audit_{i,w,t} + \sum_{w=0}^{24} \beta_w Audit_{i,w,t} + \alpha_i + \lambda_{s,t} + \delta_{w,m,t} + \varepsilon_{i,w,t}$$

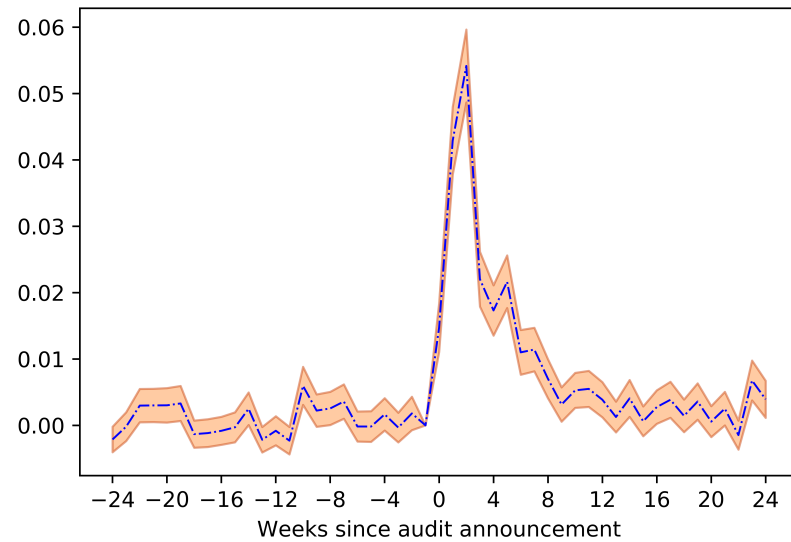
- $Y_{i,w,t}$ equals one if at least a complaint is filed from municipality i in week w of year t
- $Audit_{i,w,t}$ are indicator variables tracking the weeks that immediately precede and follow that audit announcement in municipality i
- α_i are municipality fixed effects
- $\lambda_{s,t}$ year-state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

Timeline of the process

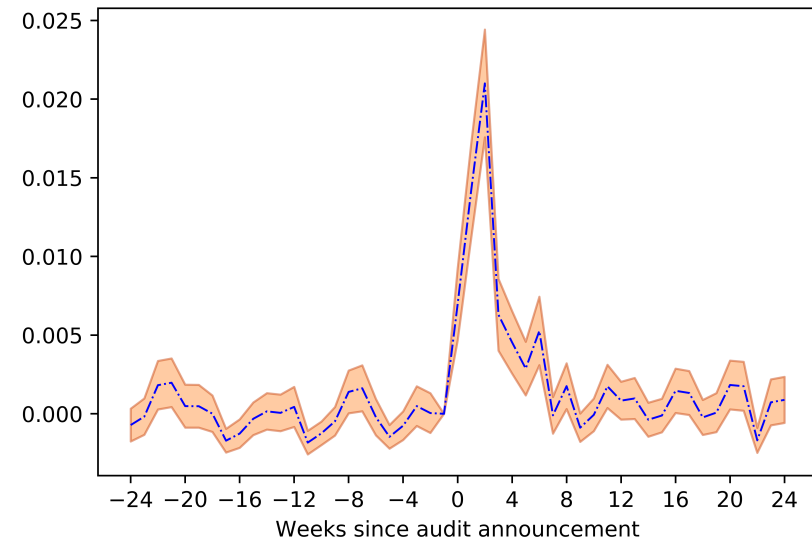


Main Findings

Complaints



Anonymous Complaints



Are complainants more likely to get audited?

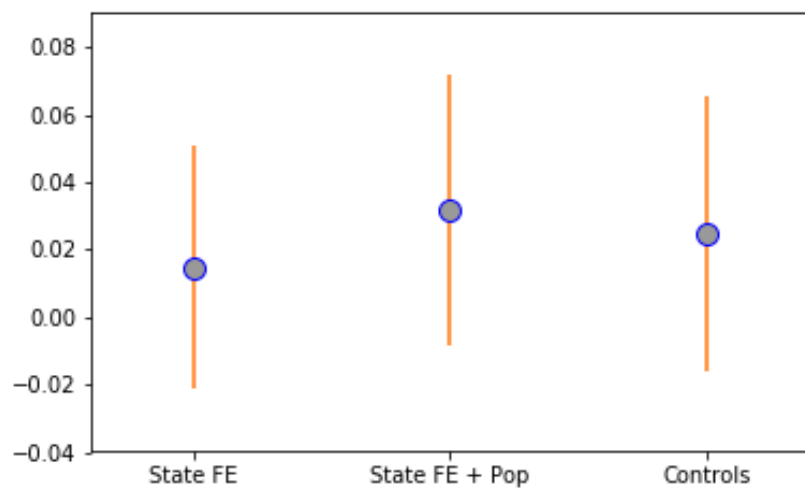
No selection of municipalities in and out of treatment

$$Audit_{i+t} = \beta_0 + \beta_1 C_i + \eta_c + \varepsilon_i$$

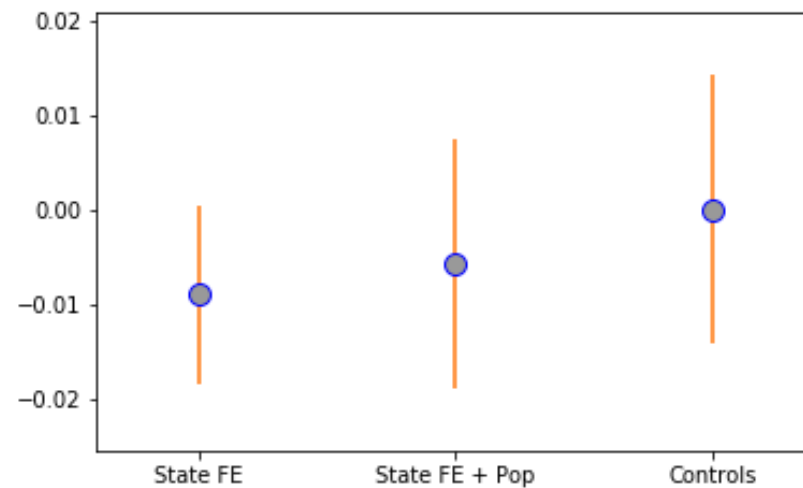
- $Audit_{i+t}$ is a dummy taking value one if municipality i receives a future audit $t + 1$
- C_i is a dummy variable taking value one if the municipality placed at least a complaint in the two years preceding the audit program
- η_c are state fixed effects, necessary as the lottery is stratified at the state level.
- ε_i is the error term

Are complainants more likely to get audited?

Complaint



Number of Complaints



Heterogeneous Effects

Corruption Level

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

- $C_{i,t}$ 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
- $\text{Audit}_{i,t,m}$ 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

Summary of Findings

Ministério da Previdência Social:

- 1.1. Não alimentação da base do Sistema de Óbitos – SISOB/MPAS, adotado com base no Aplicativo SEO – Versão 2.0 -, oriundo do INSS, referente às certidões de óbitos emitidas pelo Cartório de Registro Civil/Comarca de Rialma – GO, Município Rianópolis-GO.
- 2.1. Falta de retenção e recolhimento da contribuição previdenciária de 11% sobre o valor de serviços contratados.

Ministério da Saúde

- 1.1. Falta de Relatório de Gestão do Exercício de 2003.
- 2.1. Funcionamento das Equipes de Saúde da Família e da Equipe de Saúde Bucal em Desacordo com as Normas Estabelecidas pelo Ministério da Saúde.

Different format across reports

41000 MINISTERIO DAS COMUNICACOES

4.1.1.1 CONSTATAÇÃO:

- 1.1) Inexistência de atendimento pessoal aos usuários.

49000 MINISTERIO DO DESENVOLVIMENTO AGRARIO

5.1.1.1 CONSTATAÇÃO:

Desvio de finalidade na aplicação dos recursos do financiamento.

5.1.1.2 CONSTATAÇÃO:

Desvio de recursos do PRONAF B para aquisição de bens não admitidos pelo programa.

Text Classification

- Words and combination of words (bigrams and n-grams)
 - words: fraud, collusion, fake
 - combination of words: procurement simulation
- Severe irregularities are related to Procurement Process, Over-invoicing, and Diversion of Resources

Classification Example

- Indication of fraud in procurement process [**Severe Irregularity**]
- Payments for non executed services [**Severe Irregularity**]
- Non actualization of pupil's cadastral information

Corruption Measure

- Principal component of a series of variables
 - The number of irregularities, the number of severe irregularities, the number of pages, the number of lines, the number of images
- The **latent** component is the underlying corruption in the municipality

Procurement Simulation

Ao SR.
Presidente da Comissão de Licitação
Prefeitura Municipal de Alvarães
De: A. de Lima Mendes

Assunto: Referente cotação de preços de gêneros alimentícios

QUANT.	UNIDADE	ESPECIFICAÇÃO	PREÇO
600	Unidade	Pasta com elástico	1,90
150	Unidade	Fita gomada	9,50
90	Unidade	Lápis preto	29,30
100	Unidade	Cola branca	13,30
100	Unidade	Giz colorido	58,70
350	Caixa	Papel ofício a4	19,60
200	Caixa	Papel almaço	23,80
100	Unidade	Giz branco	42,30
5000	Unidade	Papel cartão	1,00
2550	Unidade	Papel madeira	0,90
50	Pacote	Papel cartolina	33,00
50	Caixa	Papel ofício 2	19,00
100	Caixa	Borracha branca	9,80

Ao SR.
Presidente da Comissão de Licitação
Prefeitura Municipal de Alvarães
De: Márcio Pinto Costa

Assunto: Referente cotação de preços de gêneros alimentícios

QUANT.	UNIDADE	ESPECIFICAÇÃO	PREÇO
600	Unidade	Pasta com elástico	0,65
150	Unidade	Fita gomada	30,40
90	Unidade	Lápis preto	17,00
100	Unidade	Cola branca	8,90
100	Unidade	Giz colorido	38,00
350	Caixa	Papel ofício a4	36,80
200	Caixa	Papel almaço	27,00
100	unidade	Giz branco	63,50
5000	unidade	Papel cartão	49,30
2550	unidade	Papel madeira	1,25
50	pacote	Papel cartolina	8,60
50	caixa	Papel ofício 2	25,80

Ao SR.
Presidente da Comissão de Licitação
Prefeitura Municipal de Alvarães
De: Francisco Hepólito Fonseca

Assunto: Referente cotação de preços de gêneros alimentícios

QUANT.	UNIDADE	ESPECIFICAÇÃO	PREÇO
600	Unidade	Pasta com elástico	1,00
150	Unidade	Fita gomada	6,00
90	Unidade	Lápis preto	27,90
100	Unidade	Cola branca	12,00
100	Unidade	Giz colorido	56,00
350	Caixa	Papel ofício a4	15,00
200	Caixa	Papel almaço	22,00
100	Unidade	Giz branco	12,00
5000	Unidade	Papel cartão	0,45
2550	Unidade	Papel madeira	0,30
50	Pacote	Papel cartolina	39,00
50	Caixa	Papel ofício 2	16,50
100	Caixa	Borracha branca	8,00
50	Caixa	Cola para limpeza	27,00

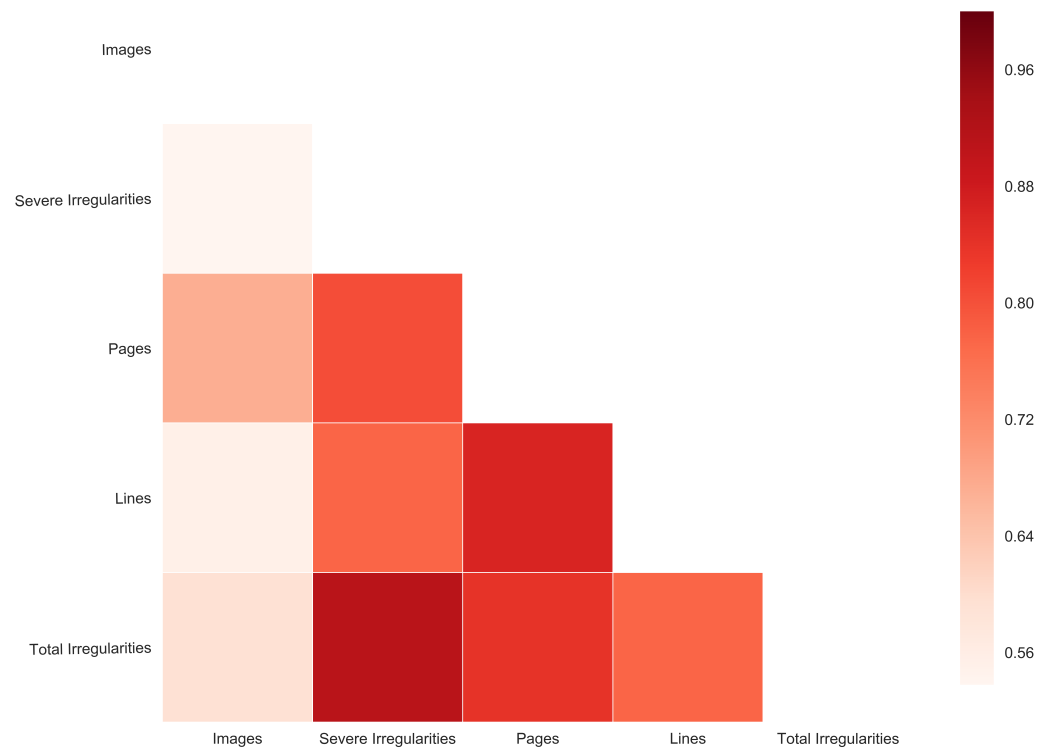
Há o mesmo erro em todas as propostas no qual há a citação da expressão “**Gêneros Alimentícios**” para uma licitação de material de expediente e limpeza.

Observa-se a mesma disposição no espaçamento entre os parágrafos, cabeçalhos e formatação de página, havendo somente mudanças no tipo de fonte.

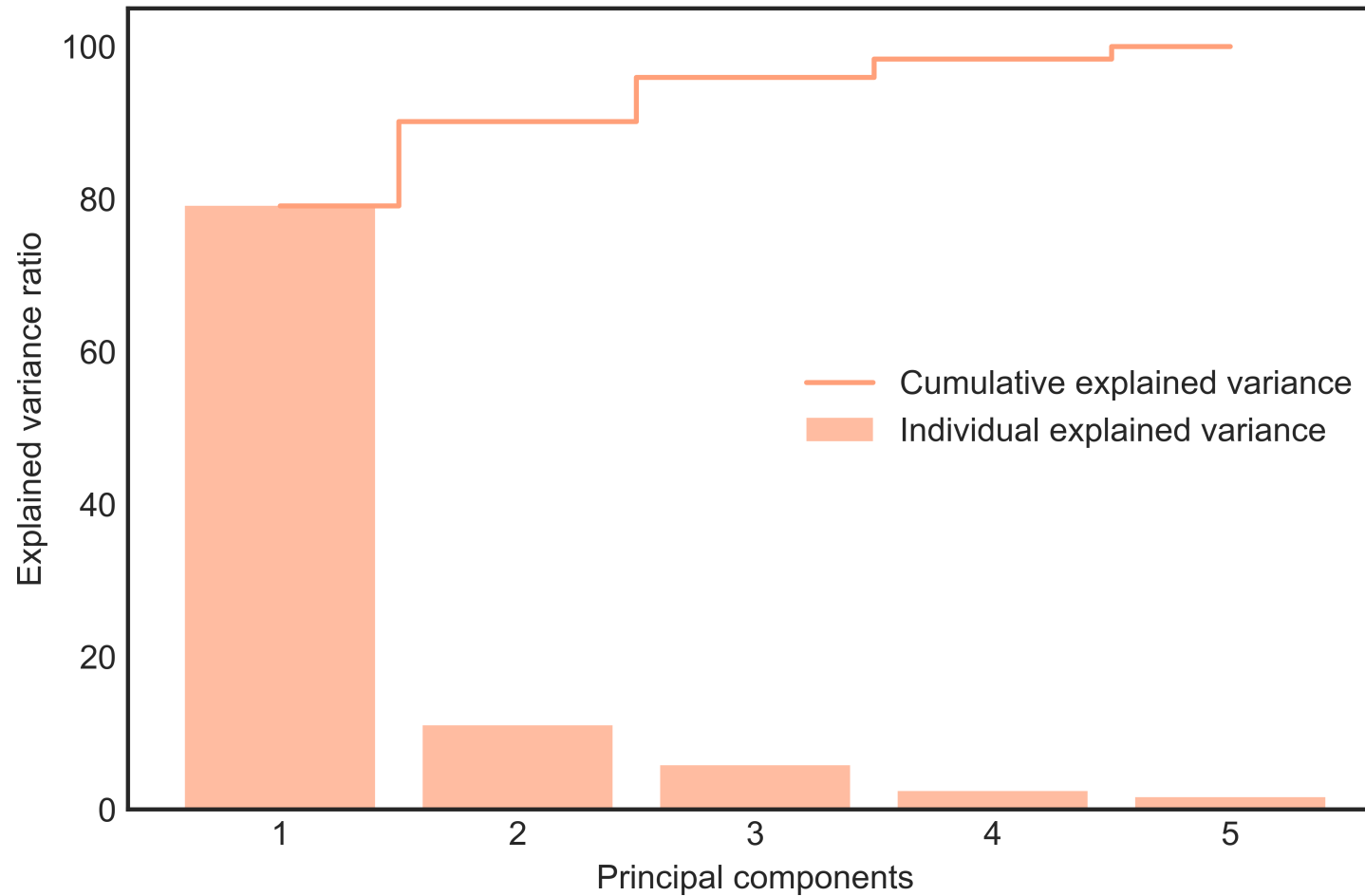
Fake Firms and Procurement Simulation

Estrada que dá acesso ao endereço informado como sendo da licitante de CNPJ nº 07.981.189/0001-90.	Fim da estrada onde deveria estar instalada a sede da licitante de CNPJ nº 07.981.189/0001-90.
Comprovante de endereço da rua onde deveria funcionar a empresa de CNPJ nº 07.981.189/0001-90.	Placa indicativa do bairro onde deveria funcionar a empresa de CNPJ nº 07.981.189/0001-90.
Placa indicativa do bairro onde deveria funcionar a empresa de CNPJ nº 06.313.322/0001-77.	Rua onde deveria funcionar a empresa de CNPJ nº 06.313.322/0001-77.

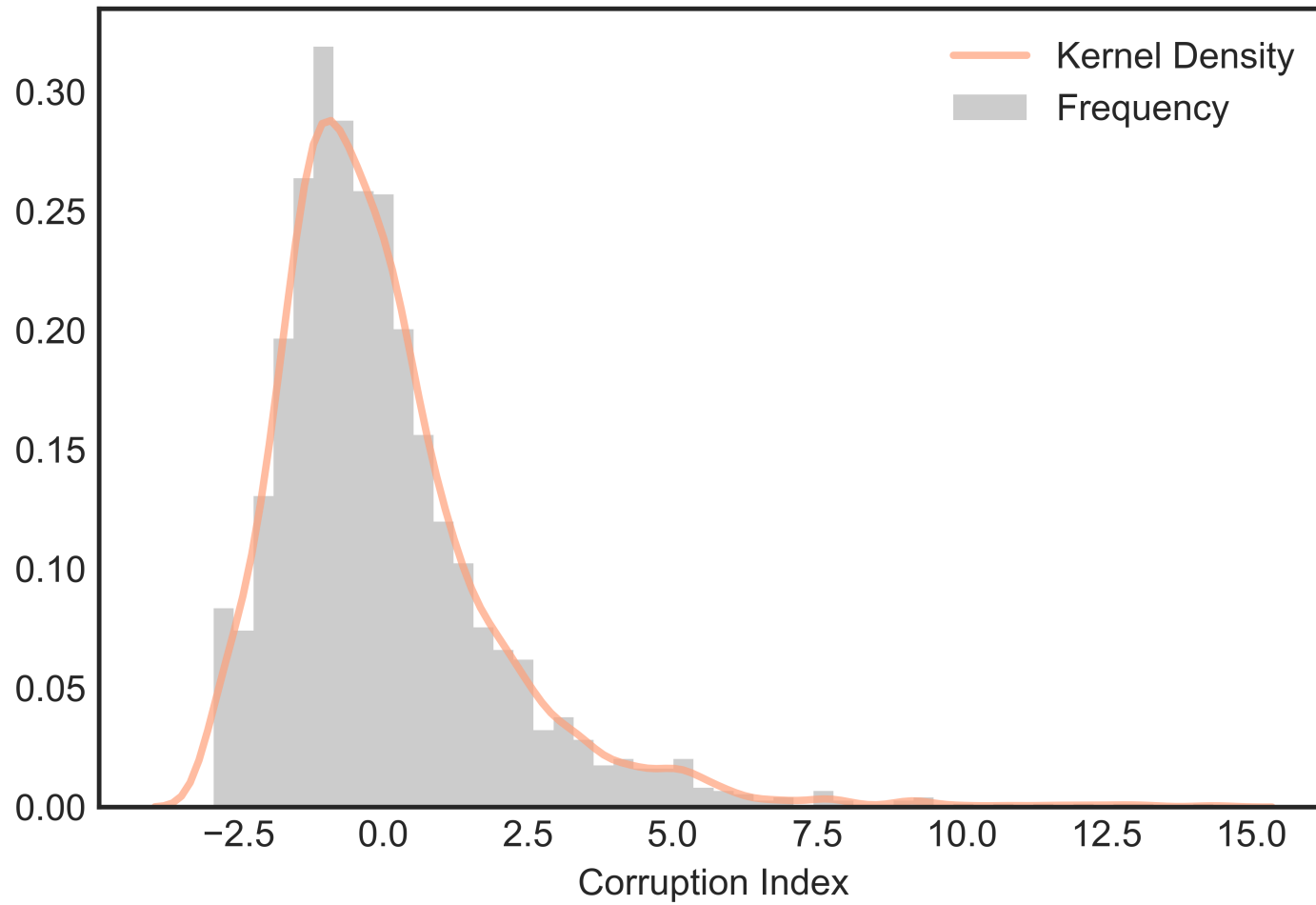
Pairwise correlations



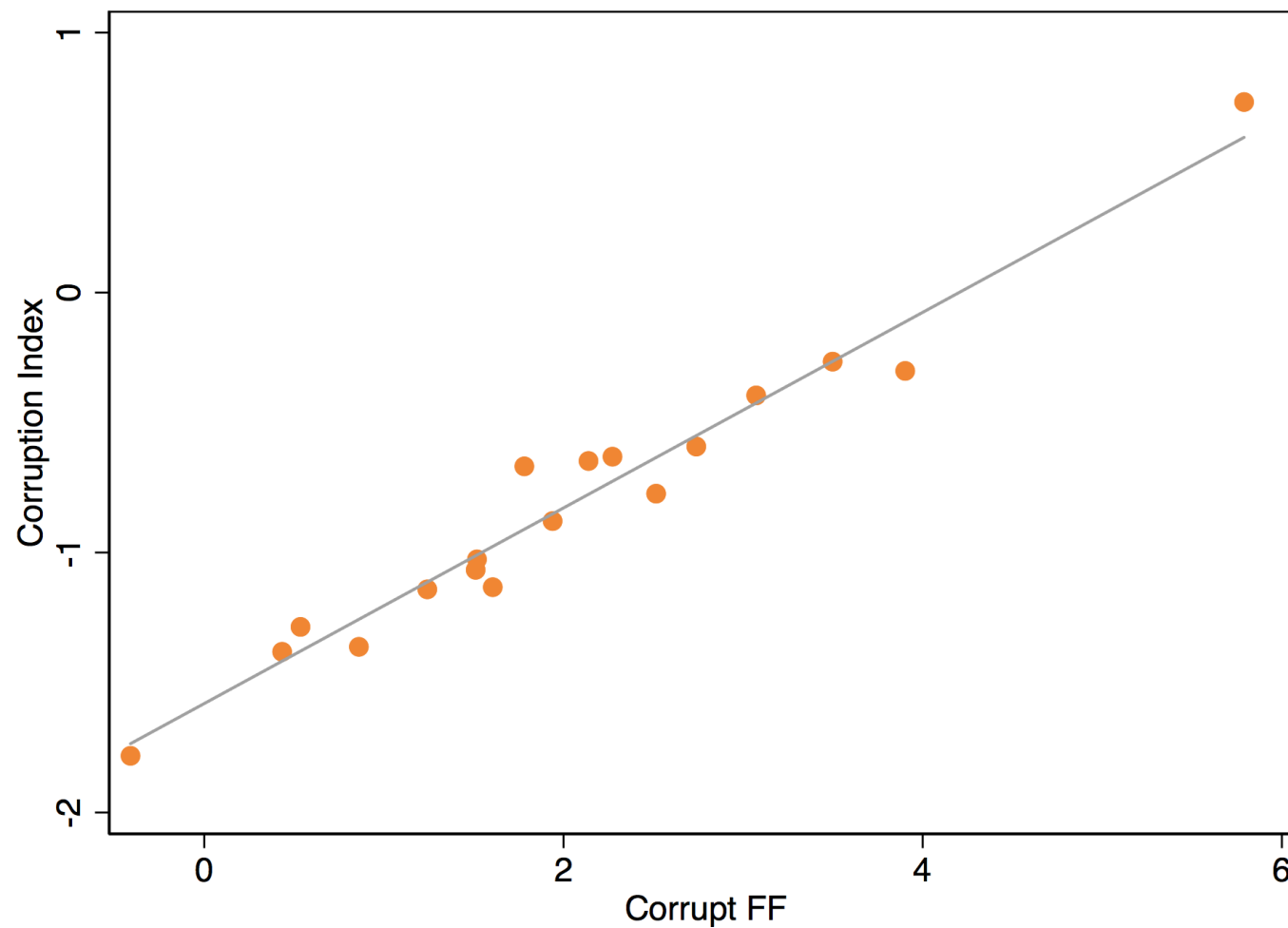
Retained Variance



Corruption Measure



Correlation with hand-coded measures



Silenced channels: Results

	Complaint				Anonymous			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Audit	0.038*** (0.004)	0.036*** (0.004)	0.022*** (0.005)	0.021*** (0.005)	0.012*** (0.002)	0.011*** (0.002)	0.004* (0.002)	0.005** (0.003)
Corruption	0.006 (0.006)	0.006 (0.007)			-0.011* (0.006)	-0.011* (0.006)		
Audit x Corruption	0.006** (0.003)	0.006** (0.003)			0.006*** (0.002)	0.005** (0.002)		
Audit x 2Tercile			0.019** (0.008)	0.019** (0.008)			0.007* (0.004)	0.005 (0.004)
Audit x 3Tercile			0.030*** (0.009)	0.029*** (0.009)			0.017*** (0.005)	0.013*** (0.005)
2Tercile			-0.053** (0.023)	-0.052** (0.023)			-0.057*** (0.015)	-0.056*** (0.015)
3Tercile			-0.055** (0.022)	-0.055** (0.022)			-0.052*** (0.017)	-0.051*** (0.017)
Observations	22968	22968	22968	22968	22968	22968	22968	22968
Year FE								
Month FE	✓		✓		✓		✓	
State-Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Year-Month FE		✓		✓		✓		✓

Social Capital

$$Y_{i,t,m} = \beta_0 + \gamma_1 \text{Audit}_{i,t,m} + \gamma_2 (\text{Audit}_{i,t,m} \times x_i) + \alpha_i + \lambda_{s,t} + \delta_{m,t} + \varepsilon_{i,t,m}$$

- 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

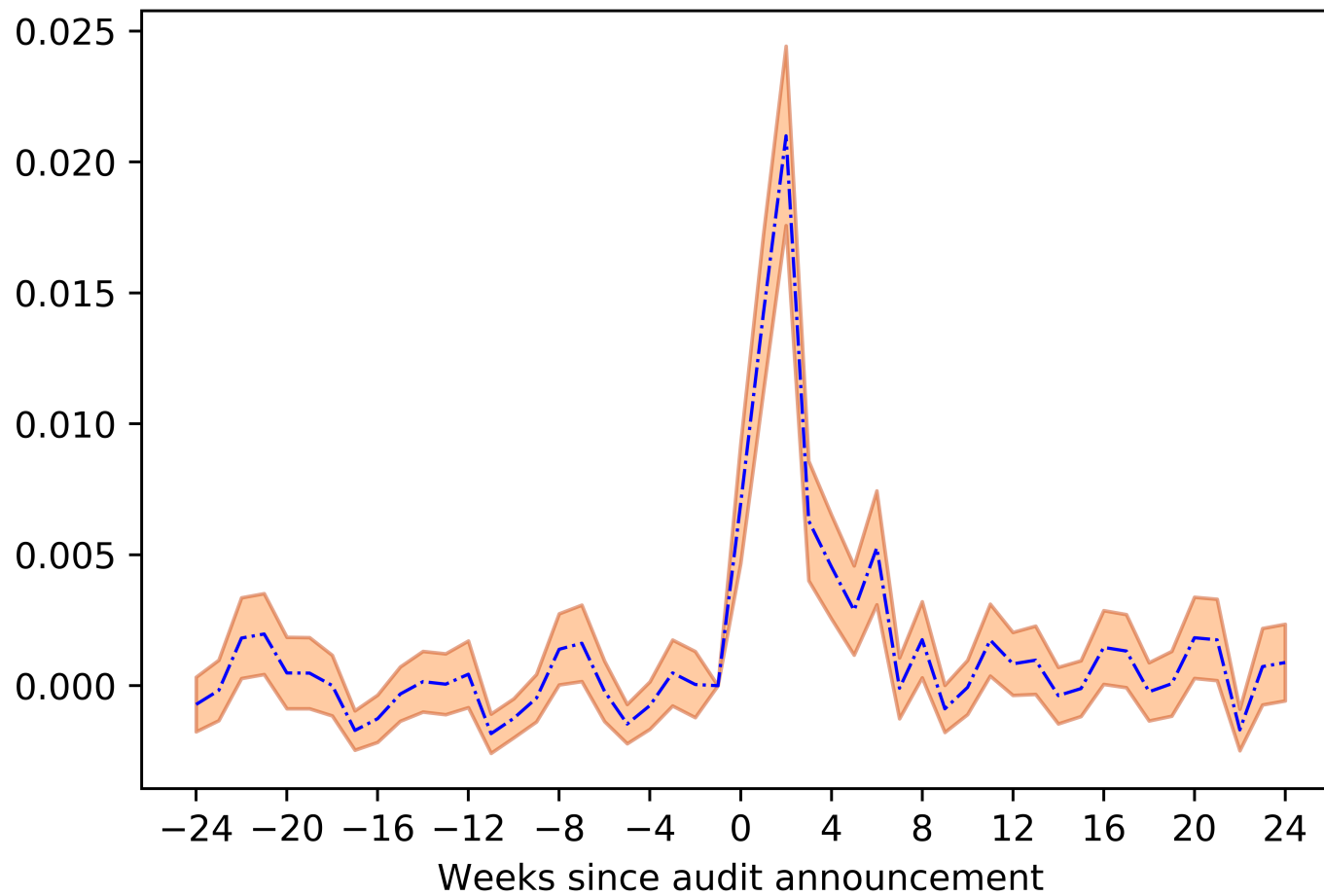
	Complaints			
	(1)	(2)	(3)	(4)
Audit	0.029*** (0.004)	0.039*** (0.004)	0.030*** (0.004)	0.051*** (0.005)
Audit X Low Literacy	0.025*** (0.007)			
Audit X Low Urban Frac		0.004 (0.006)		
Audit X Low Income PC			0.017*** (0.006)	
Audit X Low Female				-0.021*** (0.006)
Observations	731676	731676	731676	731676

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

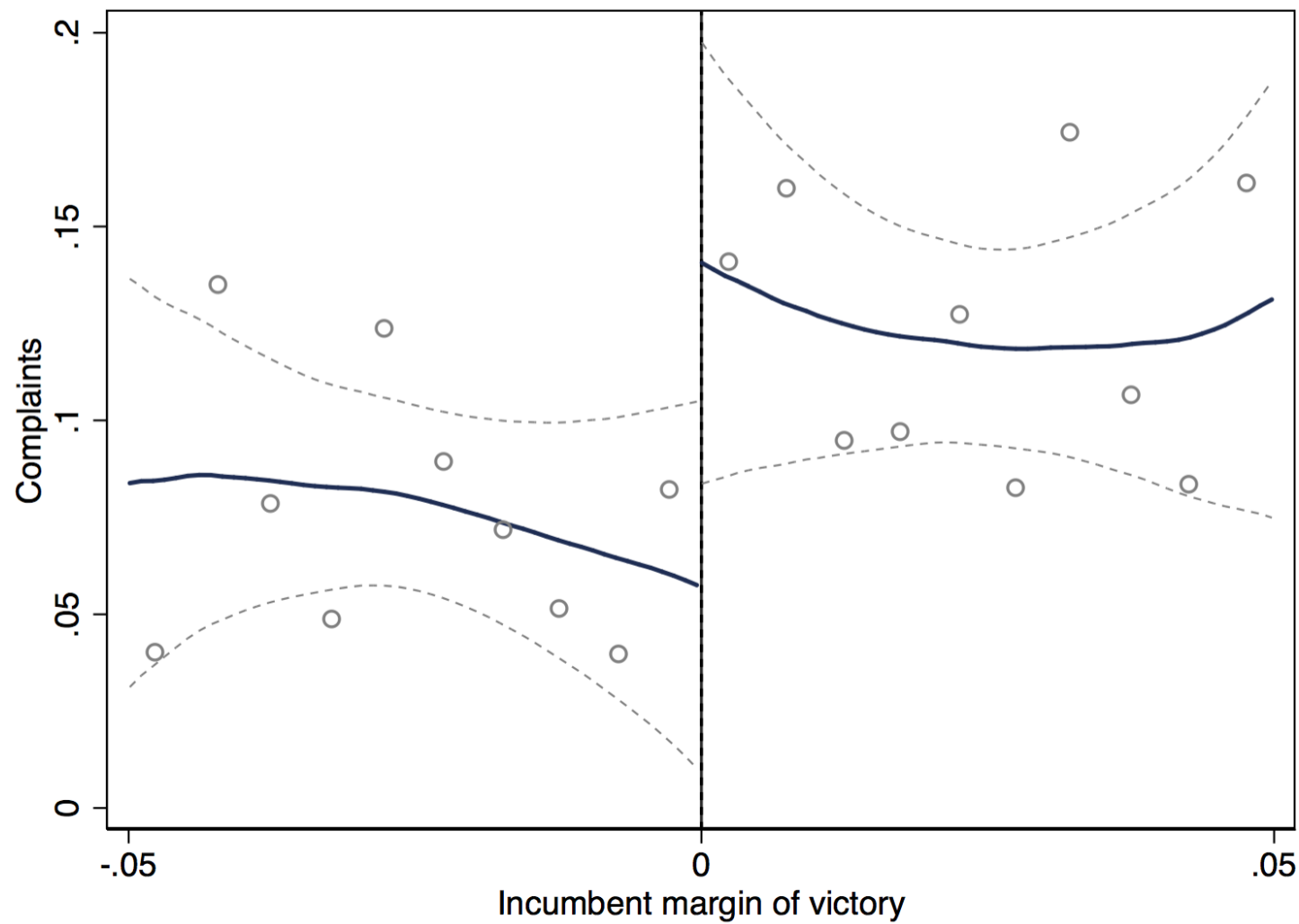
Anonymous Complaints



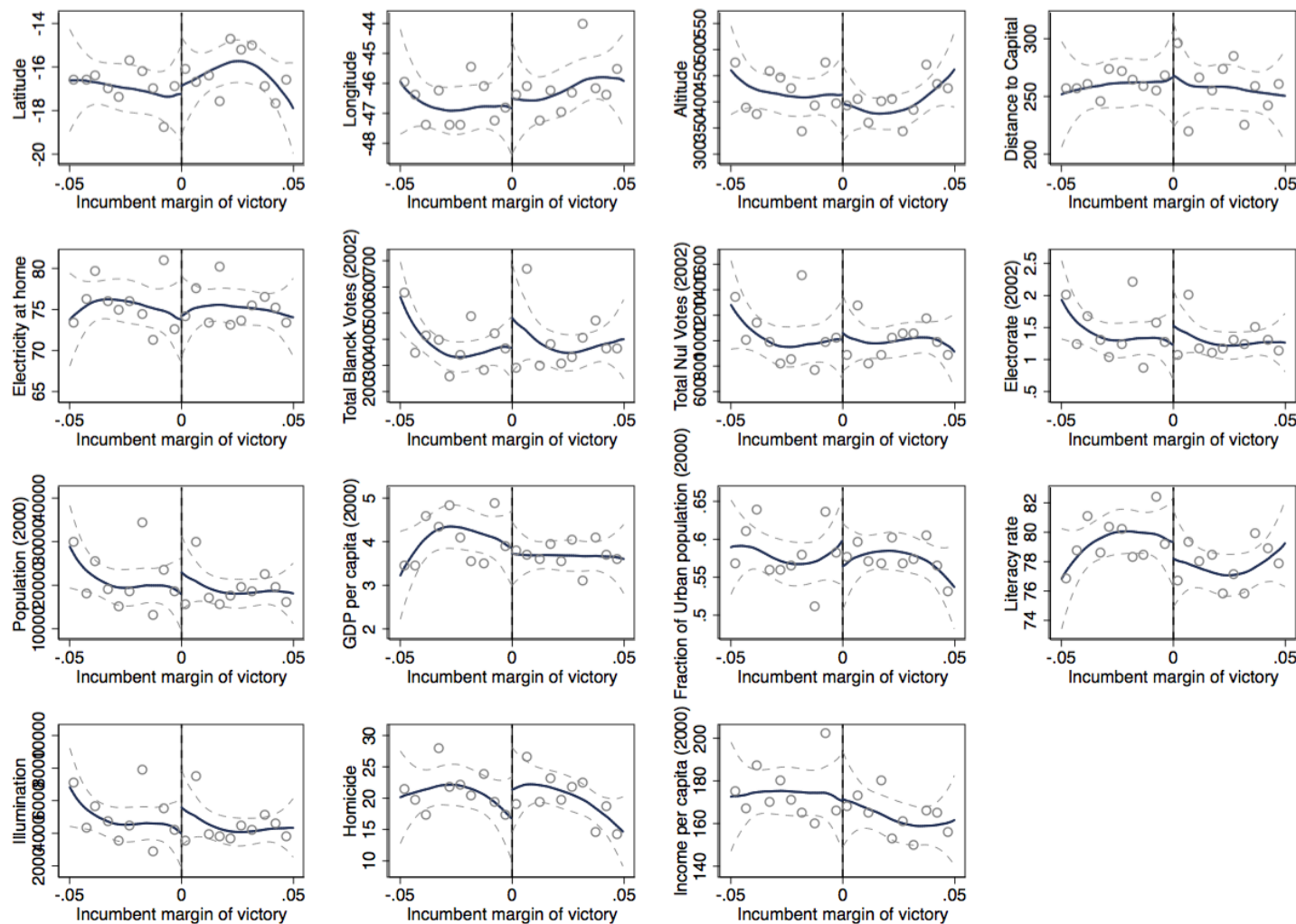
Malicious Reporting

- Increase in probability of getting rid of the incumbent
 - Reason of the complaint might help. Detect "fake" complaints

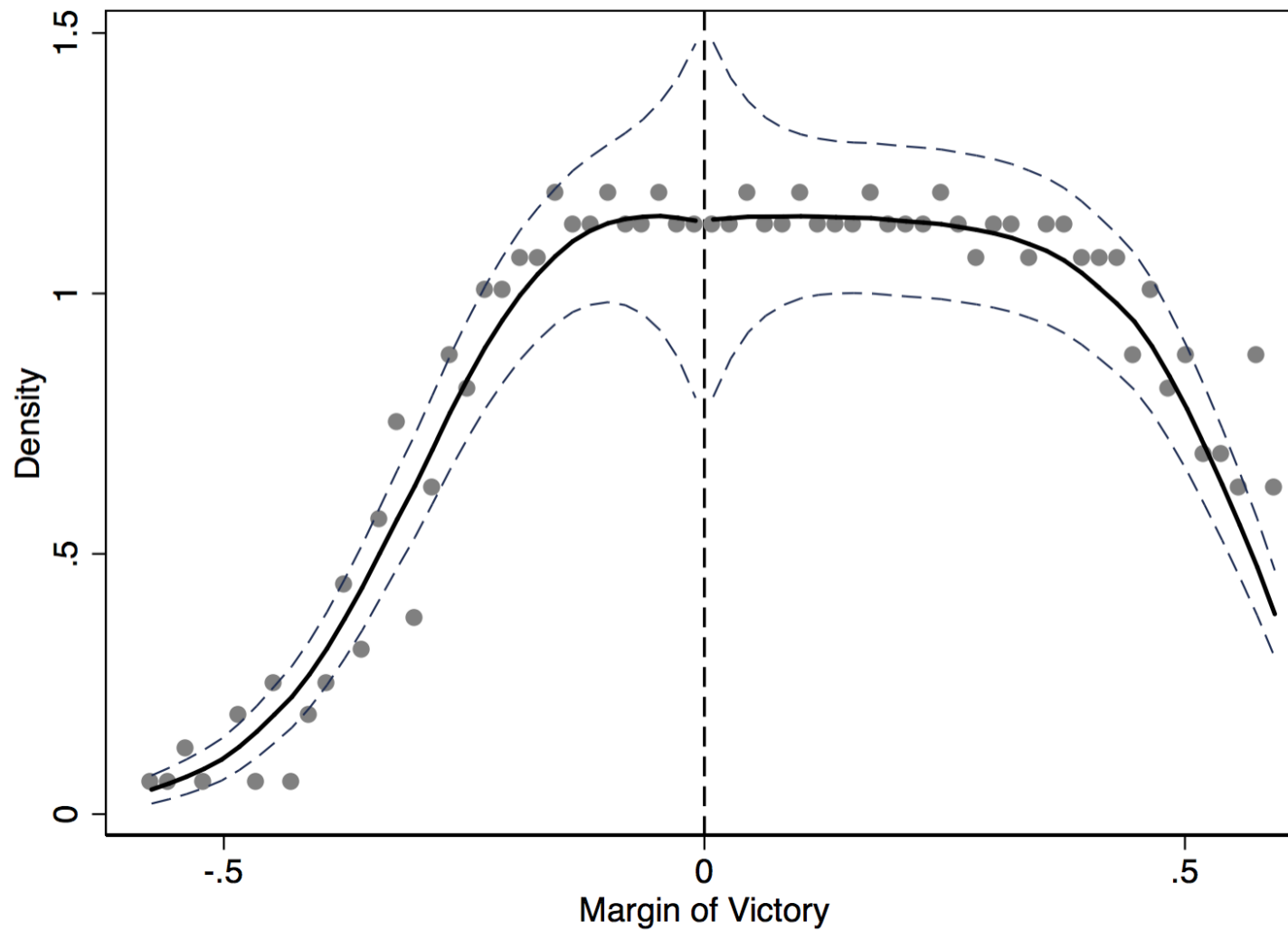
RD Findings



Covariance Balance Check



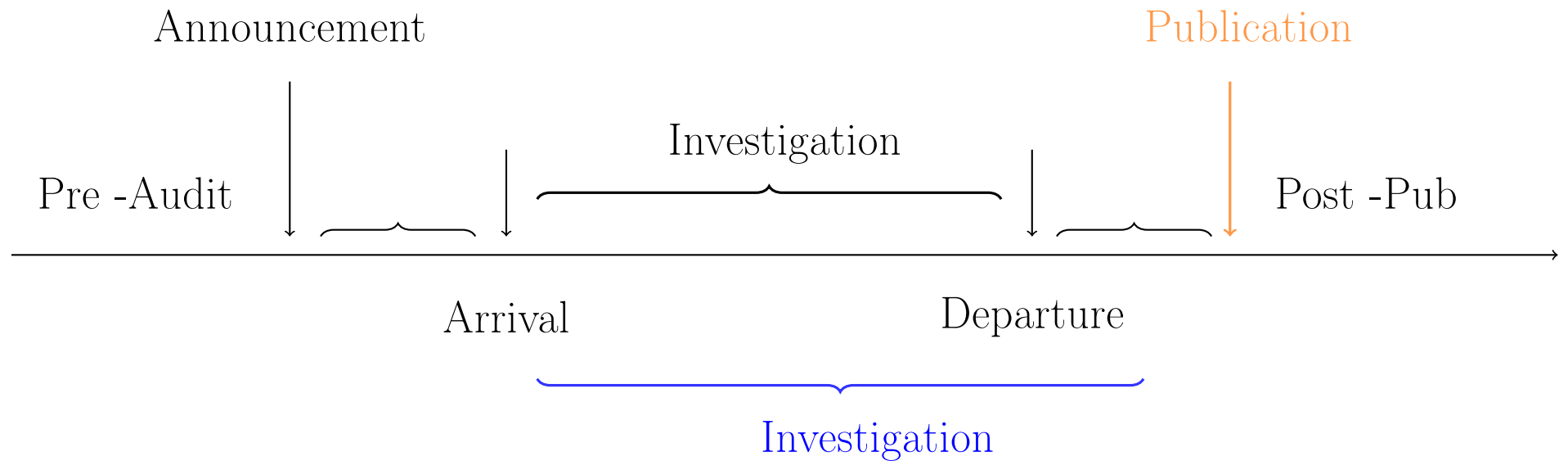
McRary test



Reminder about past corrupt practices

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

Timeline of the process



Publication of the audit reports



Conclusion

Conclusions

Audits have positive (unintended) consequences on whistleblowing

- As soon as an audit is announced, the likelihood of filing a complaint, anonymously or not, jumps and is 3-4 times higher than the pre-audit mean
 - Providing plausible deniability to whistleblowers
 - Increase the probability of being heard
- Areas where with less social capital and more corruption are more likely to report if an audit is announced