Corruption, Intimidation, and Whistleblowing: Empirical Approach

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Power, corruption and lies



CHE 200

SCOTLAND

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The

disclosed secret documents in re-sponse to what he described as the noncenatic surveillance of in

ocent citizens. In an interview Sunday newden said he is willing to face the consequences of exposure. "The not going to hide," Sounden told The Post from Hong Kong, where he has been staying. 'Mowing the U.S. gov out to intimidate its o with throats of retaliation for re realing wrongsloing is contrary to

Asked whether he believes that his disclosures will change any thing, he said: "I think they si ready have. Everyone ev new understands how bud thing





Research Question

Do audits incentivize whistleblowing?

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

 \Rightarrow 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



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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



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



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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

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

- $C_{i,t}$ 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
- $Audit_{i,t,m}$ 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 SISOBI/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 Rianápolis-GO.
- 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 CONSTATAÇÃO:

1.1) Inexistência de atendimento pessoal aos usuários.

49000 MINISTERIO DO DESENVOLVIMENTO AGRARIO 5.1.1 CONSTATAÇÃO: Desvio de finalidade na aplicação dos recursos do financiamento. 5.1.2 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



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Fake Firms and Procurement Simulation



Estrada que dá acesso ao endereço Fim da estrada onde deveria estar instalada informado como sendo da licitante de cNPJ nº 07.981.189/0001-90. 07.981.189/0001-90.



Comprovante de endereço da rua onde Placa indicativa do bairro onde deveria deveria funcionar a empresa de CNPJ nº 07.981.189/0001-90. 07.981.189/0001-90.



Placa indicativa do bairro onde deveria Rua onde deveria funcionar a empresa funcionar a empresa de CNPJ nº CNPJ nº 06.313.322/0001-77. 06.313.322/0001-77.

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Pairwise correlations



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Retained Variance



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Corruption Measure



Correlation with hand-coded measures



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Silenced channels: Results

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

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Social Capital

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

- 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***	0.039***	0.030***	0.051***				
	(0.004)	(0.004)	(0.004)	(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				

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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



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Malicious Reporting

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

RD Findings



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Covariance Balance Check



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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



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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