

ONLINE APPENDIX

A.1. Coding of CGU audit reports

A.1. Digitization process

We extract information from the audit reports thanks to the support of a team of research assistants. The coding of the information is performed beginning with the download and careful analysis of a random sample of 100 audit reports by the team of coauthors. Based on this extensive reading, we develop a detailed instruction manual, highlighting the specific pieces of information we want to extract.

Four research assistants and a research supervisor are each assigned a set of audit reports to analyze. All researchers are native speakers, have at least a university degree, they are paid a competitive hourly wage, and they obtain a performance-based bonus based on speed and quality. The job is tracked online on a leading freelancing platform. Each team member is also assigned 30 audit reports that are also assigned to other team members. This provides a double check of 150 audit reports. Incompatible entries are checked and corrected by the research supervisor.

The researchers first code the data for the given audit report, namely round, municipality, state, date the audit took place, and date the audit were publicly disclosed. Then, the process consists of first looking for the word “cnpj” in the pdf file. The CNPJ is the tax identifier of firms in Brazil. For each occurrence, the researcher investigates the full evidence and discussion of the given irregularity, and extract the following information:

- Tax identifier and firm name
- Amount associated to the irregularity (i.e. value of public procurement contract)
- Description of irregularity, including excerpts from the text
- Involvement of the firm, i.e. cases of active or passive involvement, and uncertain cases, as illustrated in [A.2](#)
- The date the contract awarding and completion, when available (these are often months or years earlier than the date the audit takes place)
- Open-ended comments about additional information and issues

The same process is then repeated for the cases of firms who appear by name only and not by CNPJ. These are potentially informal firms. The only difference with this process is that the researchers originally look for one of the following keywords (and small spelling variations of them): empresa, companhia, firma, negocio, corporacao, entidade, estabelecimento, sociedade, parceria, empregador. Cases that already appeared in the previous CNPJ search are discarded from this round. The data extraction then remains the same. For all these “informal” firms, we then try to

obtain the CNPJ from publicly available sources online. Data on firms with no CNPJ is not used in this paper, as we rely on the matching of the audits data with the RAIS database on formal firms.

On average, the coding of one report takes between 60 and 90 minutes. During the above process, we would conduct regular random checks of the data collected, and one-on-one weekly individual discussions with the team members.

At the end of the process, we conduct a thorough cross-validation of the information collected. This phase is carried out by the research supervisor and two new research assistants who are asked to go over a large random sample of the data.

A.2. Examples of irregularities in CGU audit reports

We report here a list of 40 representative irregularity cases extracted from the audit reports. We split the types of cases so as to be representative of the distribution in the full sample. We omit tax identifiers and edit the precise extracts from the audit reports to improve readability.

A.3. Corrupt

- 1.** In the municipality of Alto Alegre do Pindare, auditors uncovered the misappropriation of public funds related to a tender for the purchase of food products needed to prepare school meals. The winning company, which was paid for this contract, presented fake “fiscal good standing” certificates, in order to access the bidding. In addition, the auditors found out that the products purchased from the company were never delivered to the schools, and that the invoices issued by the company were invalid, due to the lack of printed authorization from the Treasury Authority.
- 2.** The company Construtora Mavil Ltda was hired by the municipality of Quixaba to provide drilling services and to install 11 deep tubular wells with pipeline and storage systems, for an amount of R\$ 203,245.13. The auditors found that two years and four months after the beginning, the work was far from being concluded, and the company had abandoned the project without providing explanations or contacting the municipality.
- 3.** The municipality of Japoata awarded a construction procurement to a company for an amount of R\$ 415,248.44. The company was supposed to provide two water supply systems. The physical inspection by the auditors uncovered that the work had stopped and the two water supply systems were never activated.
- 4.** The municipality of Maribondo opened a tender to provide school transportation services. The tender was awarded to Ideal - Locacoes e Servicos Ltda. Upon inspection, it was discovered that the vehicles used to transport the students did not match the models specified in the contract (type and vintage). The vehicles were visibly old and lacked safety measures, and the drivers were not qualified to drive the vehicles. In addition, the company fully subcontracted the services to a third party company which was never mentioned in the original bidding documents.

A.4. Actively involved

- 1.** Against provision 8,666/93, the municipality of Sao Desiderio did not hold an open bidding tender for the purchase of food products. Instead, the municipality hired directly the company Distribuidora Lord Ltda and other two suppliers to provide the products.
- 2.** The company Mary e Nidia Comercio Ltda. provided food products to the Municipality of Saloa, but the municipality did not conduct a price survey that would guarantee the acquisition of materials at prices advantageous to the local government. The company's fiscal situation was also not in full compliance, which should have prevented its participation in public procurement.
- 3.** Upon audit, it was found that three bidders may have colluded during the bidding process of a tender pertaining the provision of medicines. G. Odisio Com. Rep. Ltda was the winning company, while the other two bidders presented bids with prices that were only 1% and 1,5% lower.
- 4.** The auditors uncovered several irregularities for a tender held by the municipality of Pequi, where multiple companies did not submit the required documents to participate in the tender. Three of the participating companies also had shared family ties. Additionally, the municipality did not publish the results of the tender.
- 5.** The company Ometac Dental won a contract requiring to provide medicines and other medical items to the municipality of Amarante do Piaui. Ometac Dental however produced additional invoices, as part of the same contract, which included items that were not originally part of the tender.
- 6.** The Municipality of Angical do Piaui published a tender for the purchase of schools' material. Although the winning company was Dinamica Comerical Distribuidora, G. DE S. Coelho - MEE the municipality paid the company Babylandia Variedades, Neida Marques Fernandes for the provision of such material. The latter company did not participate in the original auction.
- 7.** A firm won a competitive auction for the provision of building material to the municipality of Placido de Castro. The audit uncovered company invoices that were larger than the value established in the contract documents.
- 8.** The company provided several equipment pieces needed to set up a chicken production unit the municipality of Graccho Cardoso. While the company's original bid was for one total large amount, the municipality asked for four invoices, each smaller than R\$8,000, so as to bypass specific public procurement requirements.

9. The auditors uncovered over-invoicing irregularities in the municipality of Ronda Alta, in relation to a contract for the repair and modernization of infrastructure for recreational and leisure uses, provided by a specific company. Contracted prices were higher than those foreseen in the National System of Prices and Indices for Civil Construction (SINAPI). The SINAPI system must be observed in the execution of tenders contracted by means of federal transfer to the municipalities, as stated in the art. 115 of Law 11.439 / 2006, Budgetary Guidelines Law.

10. The company Jose Ozana Goncalves, which won the bidding for a specific procurement contract regarding the purchase of educational material, presented expired “fiscal good standing” certificates. Moreover, the auditors found that the company contravened to art. 43, item IV of Law No. 8.666 / 93, as it did not cross-validate its prices to external price surveys.

11. The municipality of Urussanga opened a tender to rent tents, stages, power generators, and other large infrastructure to host a high-profile artistic show. Three companies presented their bids. After the bids were submitted, the municipality canceled the original tender, and hired a company through direct procurement for the same exact contract, through legal exemptions that the auditors found suspicious. Other small irregularities were uncovered during the audit of that tender.

12. The municipal government of Bagre opened a tender with the purpose of purchasing medicines and hospital materials. The company Medcfarma Ltda - ME won the procurement and provided the goods as per contract. However, the auditors uncovered over-pricing, by comparing the price the municipality paid with the average prices recorded in the Ministry of Health’s Price Bank.

13. The municipality of Jundia diverted funds coming from the FUNDEB, through various invoices paid to the company Auto Posto Novo Lino Ltda. The invoices did not specify product characteristics that would allow to validate their relevance for the FUNDEB federal transfer program.

14. The auditors discovered that a tender in the municipality of Alianca, with the purpose of hiring specialized companies to provide school transport services, lease of vehicles, machinery and other equipment, presented signs of lack of competition. The municipality added specific requirements to the tender, so that the only company who could fit the criteria was Personalite Locacoes Ltda. Other four bidding companies were excluded from consideration because they could not respect the restrictive requirements imposed by the municipality.

15. In a tender for the renovation of a school in the municipality of Laranjeiras do Sul, there was significant evidence of both over-invoicing and manipulation of the bidding documents to force a specific winning company.

16. A case of over-invoicing was uncovered in the municipality of Altos, which hired the company Construtora Ribeiro Veloso to provide renovation-related services of 21 public schools. While the company was paid R\$ 327,344.48, the value of renovations provided amounted to a total value of just R\$ 83,081.79.

17. The municipality of Salitre did not monitor the construction of a sports' court, which was a contract awarded to the company Construtora Astron Ltda. After auditing the relevant documentation it was discovered that the lack of monitoring led to the acceptance of services which presented some defects and inaccuracies.

18. An audit found that invoices related to a specific federal transfer were not marked with reference to the specific title and number of the Funds Transfer Instrument, therefore disregarding the legal requirement. Several companies have issued suspicious invoices pertaining to that transfer.

A.5. Passively involved

1. In the municipality of Itabaianinha, the invoices presented as proof of the expenses for the Educational Program PDDE did not match the name of the program paying for the expenses. N.P.R. Papelaria Moveis p/ Escritorio e Assistencia Tecnica Ltda was the company which provided the material and issued the invoices.

2. The company Comercial Marinho supposedly participated and won a bidding invitation for a value of R\$ 22,000.00 to provide schoolbags to students in the municipality of Alto Alegre do Pindar. The audit contacted the company owner, who denied participation in the procurement, and who did not receive any payments. The receipts presented by the municipality were false, according to the company representative.

3. The municipality of Carinhanha used two false invoices of the company Imunosystems Comercial Ltda to prove the acquisition of medicine for the Health Unit Centers. To counter the municipality's allegation, the company owner declared to the CGU that its company had never done business with the municipality, and presented all invoices ever issued by the company as proof.

4. The auditor verified that invoices in the total amount of R\$ 20.599,50 regarding the acquisition of medicine from the company in question were false. The company owner declared to the auditors that his company has never provided medicine to the municipality.

5. The bidding process for various repair services in the "Altino Arantes" park exhibition took place through an open invitation promoted by the municipality of Igarapava. Proposals were submitted by three companies: Construtora Batista e Martins Ltda., Construtora Souto Andrade Ltda. and Laterza Construtora Ltda. The first one was declared winner of the event, with a proposal of

R\$ 150,000.00, but the auditors found the owner to be the same as the second company. The third company, Laterza Construtor, which we label Passively Involved, did not win the contract.

6. In the municipality of Catolandia, the auditors verified that in a tender regarding the acquisition of fuel, the companies Posto Dourado and Centro Automotivo Pneus Dourado appeared to participate in the tender, but the evidence showed this never happened. Instead, there seems to be evidence that the municipality faked the information to simulate the existence of the tender for the use of public funds.

7. The municipality of Jatoba held a procurement for the repair of five public schools. The audit uncovered the simulation of a tender which in practice did not take place. The company Construtora Esmeralda Ltda was listed as a participant to the auction, but information about the company (e.g., address) were fake.

8. The company DIVEPEL – Distribuidora de Veiculos e Pecas Ltda participated in the tender held by the municipality of Jatoba for the acquisition of vehicles. The auditors did not find the documentation provided by the company to be in full compliance with what was required in the public announcement of the tender. The company nonetheless did not win the procurement contract.

9. The municipality of Coroata had supposedly hired the cleaning service company P. S. Sousa e Cia Ltda. The auditors found all documentation of the contract in place, but some of the invoices attached in the documentation as proof of expenses were seemingly issued by another company, namely Remax Distribuidora Ltda. When contacted by CGU, the owners of Remax Distribuidora Ltda claimed that to have never issued invoices, and to have never taken part of any procurement with the municipality. The amount supposedly paid to the company was R\$ 626,199.40.

10. Instead of following the prescribed procedure, which requires the municipality to pay contractors using company-specific bank accounts, the municipality of Teotônio Vilela paid several different companies using personal checks. The procedure adopted is not adequate, as federal funds should be kept in separate accounts (one for each federal program), and specific payment methods are required for trace-ability.¹⁴

11. The company NEL Projetos Ltda., which we label as Passively Involved, participated in a bidding invitation held by the municipality of Campos Belos, for a contract to build a public market space, but it did not win the contract. The contract was won by the company VM Vieira e Mendonca Construcoes e Servicos Ltda, which delayed the execution of the works without justification. The municipality had not taken any action to address this issue.

¹⁴The companies paid through these methods were classified as passively involved.

12. The company Siqueira Comercio e Servicos de Encadernacao Ltda was legally hired to provide market price survey services for a bidding invitation regarding the acquisition of goods by the municipality of Acopiara. The auditors found out that the latter procurement (in which different companies were involved) was tainted by irregularities, namely the lack of documentation authenticated by appropriate notarial registries.

13. In lack of compliance of Interministerial Ordinance MF / MPAS 5.402 / 1999, the municipality of Pitimbu did not retain 11% of the total value of a payment made to the company JI Construcoes Civis Ltda, which was due to social security for tax purposes.

14. The municipality of Itatira misappropriated the resources coming from the Ministry of Education's Fund for Maintenance and Development of Basic Education (Fundeb), aimed at financing basic public education. The local government used the funds to pay for expenses not included in the program: the financial resources were used to pay for expenditure of vehicles for the transport of teachers. These services were provided by the company A&M Construcoes e Serv. Ltda.

15. Contravening to art. 22, paragraph 6, of Law no. 8,666 / 2003, the municipality of Passagem repeatedly invited the same set of companies to bid in two tenders involving the purchase of medicines. The law requires that, in these cases, the municipality should invite at least one new company. The company Farmacia Frei Damiao - Ana Maria Torres Leite ME participated as a bidder in both tenders, and did not win any contract.

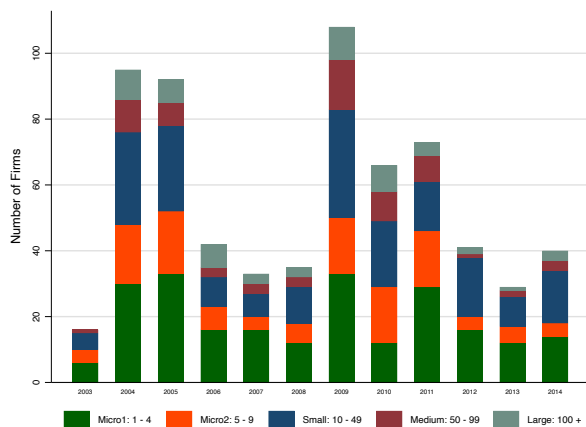
16. In the municipality of Sao Gabriel, the auditors uncovered multiple irregularities related to the use of federal funds. There was evidence of multiple cases in which signatures, invoices, and documents of real companies were falsified to simulate real contracts and use of funds. For example, the company Magazine Aquarela supposedly presented a bid to provide school furniture. However, the company owner informed the auditors that the company had never done any business with the municipality, and that his signatures were forged by local public officials.

17. The municipality of Luziani diverted resources belonging to the Ministry of Health's Basic Attention in Health Program away from its original purpose. The local government paid the company Sport Car Pecas e Servicos Ltda for several contracts regarding vehicle repairs, which were not the intended use by the Ministry of Health.

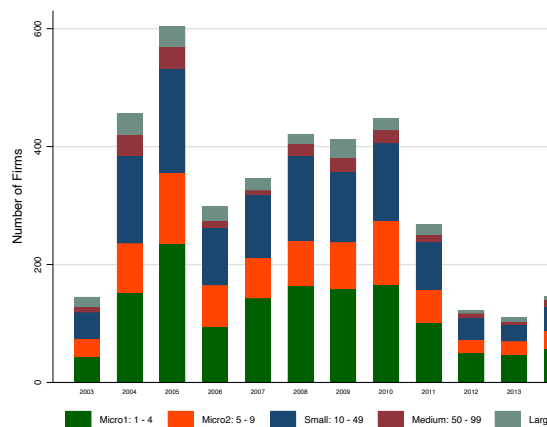
18. Upon inspection of invoices provided by the company Mercearia J.L., the auditors reported the lack of documentation regarding an itemized list of the specific products provided, which the municipality should have kept according to the provisions of art. 18 of Resolution CD / FNDE No. 6.

A.2. Additional figures and tables

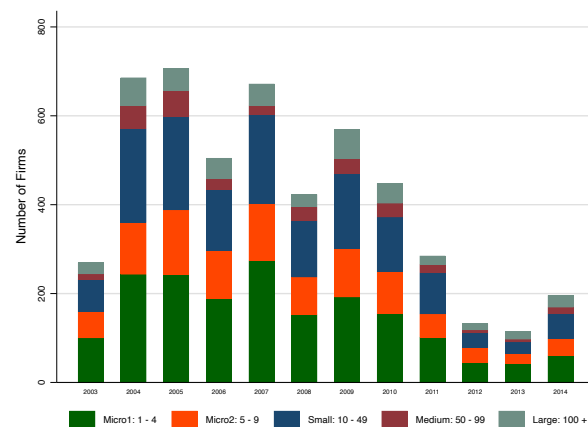
FIG. A1: SIZE AND LOCATION DISTRIBUTION BY TYPE OF EXPOSURE



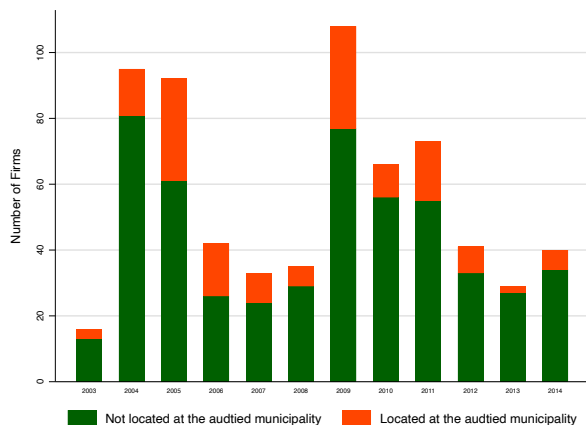
(A) SIZE: CORRUPT



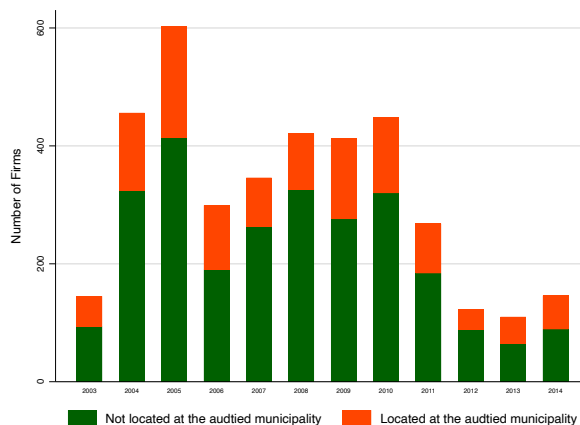
(B) SIZE: ACTIVE



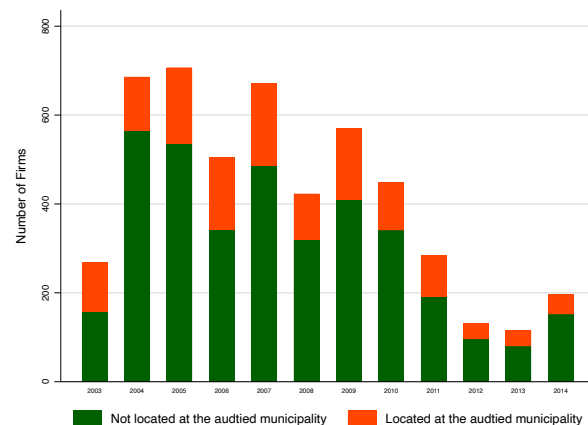
(C) SIZE: PASSIVE



(D) LOCATION: CORRUPT



(E) LOCATION: ACTIVE



(F) LOCATION: PASSIVE

Notes: This figure presents the size and location distribution by type of exposure. Panels A to C show the distribution of audited firms based on size categories over time by the type of exposure they had. Panels D to F show the distribution over time of audited firms based on whether they are located inside or outside the audited municipality by the type of exposure they had.

TABLE A1: DIFFERENCE BETWEEN SÃO PAULO AND REST OF BRAZIL

	(1)	(2)	(3)	(4)
	São Paulo	Rest of Brazil	Difference	
			Mean	Distribution
Log Employment	1.671 (1.035)	1.590 (0.990)	0.081*** (0.000)	0.000
Δ Employment	0.010 (0.368)	0.012 (0.372)	-0.002*** (0.000)	0.000
Log Payroll	7.600 (1.487)	7.280 (1.409)	0.320*** (0.001)	0.000
Δ Payroll	0.048 (0.525)	0.057 (0.528)	-0.009*** (0.000)	0.000
Log Employment: Managers	0.444 (0.740)	0.385 (0.673)	0.059*** (0.000)	0.000
Log Employment: Non-Managers	1.474 (1.056)	1.411 (1.007)	0.063*** (0.001)	0.000
Δ Employment: Managers	0.061 (0.397)	0.053 (0.380)	0.007*** (0.000)	0.000
Δ Employment: Non-Managers	-0.026 (0.431)	-0.019 (0.432)	-0.006*** (0.000)	0.000
Share of Hiring	0.648 (2.495)	0.662 (1.799)	-0.014*** (0.001)	0.000
Share of Firings	0.368 (1.880)	0.377 (1.841)	-0.009*** (0.001)	0.000
Share of White Collars	0.468 (0.413)	0.463 (0.419)	0.005*** (0.000)	0.000
Share of Blue Collars	0.344 (0.400)	0.362 (0.410)	-0.018*** (0.000)	0.000
Share of High-Skilled Workers	0.632 (0.382)	0.597 (0.398)	0.035*** (0.000)	0.000
Average Education (Years)	10.978 (2.304)	10.642 (2.535)	0.336*** (0.001)	0.000
Share in Agricultural Sector	0.104 (0.305)	0.134 (0.341)	-0.030*** (0.000)	0.000
Share in Service Sector	0.356 (0.479)	0.317 (0.465)	0.038*** (0.000)	0.000
Share in Manufacturing Sector	0.109 (0.312)	0.109 (0.312)	0.000 (0.000)	1.000
Share in Retail Sector	0.398 (0.489)	0.403 (0.490)	-0.005*** (0.000)	0.000
Share in Construction Sector	0.033 (0.179)	0.036 (0.187)	-0.003*** (0.000)	0.000

Notes: This table presents the difference between firms in São Paulo and the rest of Brazil for the period from 2008 to 2014. Columns 1 and 2 present the average and standard deviation for firms in São Paulo and the rest of Brazil. Column 3 presents the average difference between columns 1 and 2, and the standard deviation of the difference. Column 4 presents the p-value for Kolmogorov-Smirnov test for the difference in the distribution of the characteristics between firms in São Paulo and the rest of Brazil. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

TABLE A2: THE IMPACT OF AUDITS ON FIRMS: ROBUSTNESS TO ALTERNATIVE CLUSTERING

	(1)	(2)	(3)	(4)
	Employment	Exit	Federal Procurement	
			Any Contract	Ln Amount
Panel A: Municipality of Audit				
Post × 1(Exposed)	0.048*** (0.018)	0.002 (0.006)	-0.020*** (0.007)	-0.214*** (0.077)
Post	-0.023* (0.013)	0.044*** (0.006)	0.014*** (0.006)	0.153** (0.067)
Panel B: Stratum				
Post × 1(Exposed)	0.048*** (0.018)	0.002 (0.005)	-0.020*** (0.007)	-0.214*** (0.082)
Post	-0.023* (0.013)	0.044*** (0.006)	0.014** (0.006)	0.153** (0.069)
Panel C: Municipality of Audit and Year of Audit				
Post × 1(Exposed)	0.048** (0.014)	0.002 (0.007)	-0.020*** (0.004)	-0.214*** (0.036)
Post	-0.023 (0.015)	0.044*** (0.006)	0.014** (0.005)	0.153** (0.061)
Panel D: Collapse Pre/Post				
Post × 1(Exposed)	0.049*** (0.018)	0.001 (0.005)	-0.017*** (0.006)	-0.184*** (0.071)
Post	0.016 (0.012)	0.036*** (0.004)	-0.001 (0.003)	0.003 (0.033)
Observations (Panels A-C)	16,982	16,982	15,280	15,280
Observations (Panel D)	5,094	5,094	4,654	4,654
R-squared (Panels A-C)	0.952	0.245	0.612	0.642
R-squared (Panel D)	0.975	0.548	0.852	0.866
Mean Dep. Variable (Panels A-C)	2.610	0	0.0500	0.640
Mean Dep. Variable (Panel D)	2.580	0	0.0500	0.630
Firm Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES

Notes: This table presents the effects of the audit on firms. Column (1) presents the effect on the logarithm plus one for total employment, column (2) on a dummy that takes the value one if the firm exits the market that year, column (3) on a dummy that takes the value one if the firm had at least one federal procurement contract, and column (4) on the logarithm of the total amount contracted with federal procurement plus one. In Panel A, we cluster standard errors at the municipality of audit level, in Panel B, we cluster them at the stratum of matching level, and in Panel C, we double cluster them at the municipality of audit and year of audit. In Panel D, we collapse the data in the pre and post-audit period. The sample consists of audited firms and their matched controls. Section 4.1 details the matching method. Significance level: *** p<0.01, ** p<0.05, * p<0.1.

TABLE A3: THE IMPACT OF AUDITS ON FIRMS: EXCLUDING FIRMS WITH MULTIPLE TREATMENTS

	(1)	(2)	(3)	(4)
	Employment	Exit	Federal Procurement	
			Any Contract	Ln Amount
Panel A: Excluding Firms Audited Multiple Times				
Post × 1(Exposed)	0.049*** (0.017)	0.002 (0.005)	-0.020*** (0.006)	-0.214*** (0.074)
Post	-0.022* (0.012)	0.044*** (0.005)	0.014*** (0.005)	0.153** (0.066)
Observations	16,978	16,978	15,276	15,276
R-squared	0.952	0.245	0.612	0.642
Mean Dep. Variable	2.610	0	0.0500	0.640
Panel B: Excluding Firms in Municipalities Audited Multiple Times				
Post × 1(Exposed)	0.042** (0.019)	0.004 (0.006)	-0.017** (0.007)	-0.185** (0.081)
Post	-0.012 (0.013)	0.043*** (0.006)	0.012* (0.006)	0.142* (0.076)
Observations	13,994	13,994	12,558	12,558
R-squared	0.954	0.251	0.618	0.651
Firm Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES
Mean Dep. Variable	2.620	0	0.0500	0.660

Notes: This table presents the effects of the audit on firms. Column (1) presents the effect on the logarithm plus one for total employment, column (2) on a dummy that takes the value one if the firm exits the market that year, column (3) on a dummy that takes the value one if the firm had at least one federal procurement contract, and column (4) on the logarithm of the total amount contracted with federal procurement plus one. The sample consists of audited firms and their matched controls, while in Panel A the sample excludes firms audited multiple times and Panel B excludes firms in municipalities audited multiple times. Section 4.1 details the matching method. Standard errors clustered at firm level reported in parentheses. Significance level: *** p<0.01, ** p<0.05, * p<0.1.

TABLE A4: ROBUSTNESS TO ALTERNATIVE SPECIFICATIONS

	(1)	(2)	(3)	(4)
	Employment	Exit	Federal Procurement	
			Any Contract	Ln Amount
Panel A: Municipality of Audit-Year Fixed Effects				
Post × 1(Exposed)	0.039** (0.017)	0.003 (0.005)	-0.020*** (0.007)	-0.222*** (0.083)
Post	0.074 (0.051)	0.028 (0.043)	0.013 (0.026)	0.077 (0.353)
Panel B: Municipality of Location-Year Fixed Effects				
Post × 1(Exposed)	0.047** (0.023)	0.012* (0.006)	-0.022** (0.010)	-0.272** (0.118)
Post	-0.014 (0.013)	0.023*** (0.004)	0.016** (0.007)	0.203** (0.086)
Panel C: Stratum-Year Fixed Effects				
Post × 1(Exposed)	0.041** (0.016)	0.002 (0.005)	-0.020*** (0.007)	-0.215*** (0.081)
Observations	16,831	17,609	15,197	15,197
R-squared	0.982	0.670	0.812	0.826
Firm FE	YES	YES	YES	YES
Mean Dep. Variable	2.660	0	0.060	0.660

Notes: This table presents the effects of the audit on firms. Column (1) presents the effect on the logarithm plus one for total employment, column (2) on a dummy that takes the value one if the firm exits the market that year, column (3) on a dummy that takes the value one if the firm had at least one federal procurement contract, and column (4) the logarithm of the total amount contracted with federal procurement plus one. Panel A adds municipality of audit×year fixed effects. Panel B adds the department where the firm is located×year fixed effects. Panel C adds cell of matching (stratum)×year fixed effects. The sample consists of audited firms and their matched controls. Section 4.1 details the matching method. Standard errors clustered at firm level reported in parentheses. Significance level: *** p<0.01, ** p<0.05, * p<0.1.

TABLE A5: THE IMPACT OF AUDITS ON WORKERS BY EXPOSURE TYPE

	(1) Stay {0,1}	(2) Employed {0,1}	(3) Pay Unconditional	(4) Pay Conditional
Panel A: All Workers				
Post × 1(Exposed)	-0.050 (0.046)	0.008 (0.010)	0.065 (0.073)	0.008 (0.011)
Post × 1(Exposed) × Active	0.083 (0.059)	0.002 (0.016)	0.008 (0.115)	0.018 (0.020)
Post × 1(Exposed) × Corrupt	-0.055 (0.064)	0.012 (0.018)	0.098 (0.123)	0.045* (0.023)
Post × Active	-0.113** (0.044)	0.004 (0.013)	0.038 (0.091)	-0.014 (0.016)
Post × Corrupt	-0.114** (0.049)	0.001 (0.013)	0.014 (0.090)	-0.011 (0.015)
Post	-0.075* (0.040)	0.019*** (0.005)	0.137*** (0.037)	0.008 (0.006)
Observations	913,850	913,850	913,850	819,724
R ²	0.486	0.307	0.430	0.916
Mean Dep. Variable	0.81	0.89	5.85	6.56
Panel B: Managers				
Post × 1(Exposed)	-0.013 (0.035)	-0.008 (0.011)	-0.019 (0.091)	0.027 (0.016)
Post × 1(Exposed) × Active	0.018 (0.059)	0.003 (0.023)	0.051 (0.178)	0.007 (0.034)
Post × 1(Exposed) × Corrupt	-0.136* (0.071)	0.010 (0.034)	0.120 (0.244)	0.046 (0.048)
Post × Active	-0.075 (0.049)	0.010 (0.018)	0.109 (0.130)	0.029 (0.021)
Post × Corrupt	-0.037 (0.050)	-0.021 (0.026)	-0.088 (0.186)	0.017 (0.036)
Post	-0.046* (0.027)	0.037*** (0.009)	0.264*** (0.067)	-0.022** (0.011)
Observations	54,530	54,530	54,530	50,391
R ²	0.469	0.322	0.440	0.935
Mean Dep. Variable	0.87	0.95	7.09	7.45
Panel C: Non-Managers				
Post × 1(Exposed)	-0.053 (0.047)	0.009 (0.010)	0.069 (0.077)	0.007 (0.011)
Post × 1(Exposed) × Active	0.087 (0.061)	0.002 (0.017)	0.010 (0.118)	0.019 (0.020)
Post × 1(Exposed) × Corrupt	-0.049 (0.066)	0.011 (0.019)	0.089 (0.126)	0.044* (0.023)
Post × Active	-0.115** (0.046)	0.003 (0.013)	0.028 (0.093)	-0.017 (0.016)
Post × Corrupt	-0.118** (0.051)	0.002 (0.014)	0.016 (0.093)	-0.013 (0.014)
Post	-0.076* (0.042)	0.018*** (0.005)	0.132*** (0.038)	0.010 (0.006)
Observations	854,280	854,280	854,280	764,564
R ²	0.484	0.307	0.422	0.906
Mean Dep. Variable	0.81	0.89	5.77	6.49
Employee Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES

Notes: This table presents the estimation of the effect of audits on the worker-level outcomes. The sample consists of workers from audited firms and their matched controls that were in the firm at the time of the audit. Section 4.1 details the matching method. Stay is an indicator variables that is equal to one if the individual is employed at the same firm that he was employed at $t = -1$. Employed is an indicator variable that is equal to one if the individual is employed at any firm during the year. Pay unconditional is the logarithm of one plus the wage, while pay conditional is the logarithm of the wage. Standard errors are clustered at firm level reported in parentheses. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

TABLE A6: THE IMPACT OF AUDITS ON FIRMS: HETEROGENEOUS EFFECTS I

	(1)	(2)	(3)	(4)
	Employment	Exit	Federal Procurement	
			Any Contract	Ln Amount
Panel A: Number of Irregularities				
Post × 1(Exposed) × HC	-0.070 (0.053)	0.013 (0.013)	0.004 (0.017)	0.116 (0.198)
Post × 1(Exposed)	0.105** (0.051)	-0.008 (0.012)	-0.023 (0.016)	-0.310* (0.184)
Post × HC	0.057* (0.034)	-0.008 (0.010)	0.007 (0.007)	0.050 (0.087)
Post	-0.071** (0.032)	0.050*** (0.010)	0.009 (0.008)	0.113 (0.092)
Panel B: Share of Active and Corrupt Irregularities				
Post × 1(Exposed) × HC	0.000 (0.034)	0.012 (0.010)	-0.007 (0.012)	-0.108 (0.140)
Post × 1(Exposed)	0.048* (0.026)	-0.004 (0.007)	-0.017* (0.009)	-0.159 (0.105)
Post × HC	0.008 (0.023)	-0.006 (0.007)	-0.003 (0.005)	-0.050 (0.062)
Post	-0.027 (0.017)	0.047*** (0.007)	0.016*** (0.006)	0.181** (0.077)
Panel C: Share of Corrupt Irregularities				
Post × 1(Exposed) × HC	-0.046 (0.035)	-0.008 (0.011)	-0.006 (0.012)	-0.093 (0.152)
Post × 1(Exposed)	0.067*** (0.022)	0.006 (0.007)	-0.017** (0.008)	-0.177** (0.089)
Post × HC	0.036 (0.023)	0.002 (0.008)	0.005 (0.006)	0.068 (0.077)
Post	-0.038** (0.016)	0.043*** (0.006)	0.012** (0.006)	0.125* (0.065)
Observations	16,986	16,986	15,284	15,284
R-squared	0.952	0.245	0.612	0.642
Firm Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES
Mean Dep. Variable	2.610	0	0.0500	0.640

Notes: This table presents heterogeneous effects of the audits on firms depending on the level of corruption uncovered. We estimate the following equation: $y_{it} = \alpha_i + \alpha_t + \beta_1 Post_{it} + \beta_2 (Post_{it} \times 1(Exposed)_i) + \beta_3 Post_{it} \times HC_i + \beta_4 (Post_{it} \times 1(Exposed)_i) \times HC_i + \varepsilon_{it}$. Column (1) presents the effect on the logarithm of one plus total employment, column (2) on a dummy that takes the value one if the firm exits the market that year, column (3) on a dummy that takes the value one if the firm had at least one federal procurement contract, and column (4) on the logarithm of one plus the total amount contracted with federal procurement. The term HC_i is based on the audited municipality in which the firm was exposed, and we input this value for the actual control of the exposed firm. In particular, this is a dummy that takes value one if the measure of corruption is above the median of the empirical distribution. In panel A, we define HC based on the total number of irregularities, while in panel B (C) we focus on the share of active plus corrupt (corrupt only) irregularities over the total. The sample consists of audited firms and their matched controls. Section 4.1 details the matching method. Standard errors clustered at firm level reported in parentheses. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

TABLE A7: THE IMPACT OF AUDITS ON FIRMS: HETEROGENEOUS EFFECTS II

	(1)	(2)	(3)	(4)
	Employment	Exit	Federal Procurement	
			Any Contract	Ln Amount
Panel A: Audit Within the Two-Year Period Before Election				
Post × 1(Exposed) × Final Years	-0.040 (0.035)	-0.004 (0.010)	-0.002 (0.013)	-0.044 (0.152)
Post × 1(Exposed)	0.065*** (0.023)	0.004 (0.007)	-0.019** (0.008)	-0.196** (0.092)
Post × Final Years	0.036 (0.024)	-0.004 (0.008)	0.018** (0.008)	0.235** (0.093)
Post	-0.039** (0.016)	0.046*** (0.007)	0.007 (0.006)	0.056 (0.070)
Panel B: Second-Term Mayors				
Post × 1(Exposed) × 2nd Term Mayor	-0.014 (0.037)	0.008 (0.011)	0.002 (0.014)	0.000 (0.166)
Post × 1(Exposed)	0.052** (0.021)	-0.000 (0.007)	-0.020*** (0.007)	-0.214*** (0.082)
Post × 2nd Term Mayor	0.006 (0.025)	-0.016** (0.007)	-0.009 (0.007)	-0.100 (0.078)
Post	-0.025* (0.014)	0.049*** (0.006)	0.017*** (0.006)	0.182*** (0.070)
Panel C: Radio Presence				
Post × 1(Exposed) × Radio	-0.005 (0.035)	-0.015 (0.012)	0.018 (0.012)	0.182 (0.144)
Post × 1(Exposed)	0.052* (0.029)	0.013 (0.010)	-0.033*** (0.009)	-0.340*** (0.108)
Post × Radio	-0.026 (0.023)	0.011 (0.008)	-0.009 (0.006)	-0.094 (0.074)
Post	-0.004 (0.020)	0.036*** (0.008)	0.021*** (0.006)	0.218*** (0.072)
Panel C: Newspaper Presence				
Post × 1(Exposed) × Newspaper	-0.015 (0.034)	0.008 (0.011)	-0.007 (0.013)	-0.088 (0.155)
Post × 1(Exposed)	0.053** (0.022)	-0.001 (0.007)	-0.018** (0.007)	-0.185** (0.086)
Post × Newspaper	0.052** (0.023)	-0.014* (0.007)	0.007 (0.006)	0.084 (0.072)
Post	-0.040*** (0.014)	0.049*** (0.006)	0.012** (0.006)	0.126* (0.068)
Observations	16,986	16,986	15,284	15,284
R-squared	0.952	0.245	0.612	0.642
Firm Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES
Mean Dep. Variable	2.610	0	0.050	0.640

Notes: This table presents the heterogeneous effects of the audit on firms depending on the timing of the political cycle and the presence of media. We estimate the following equation: $y_{it} = \alpha_i + \alpha_t + \beta_1 Post_{it} + \beta_2 (Post_{it} \times 1(Exposed)_i) + \beta_3 Post_{it} \times H_i + \beta_4 (Post_{it} \times 1(Exposed)_i) \times H_i + \varepsilon_{it}$. Column (1) presents the effect on the logarithm of one plus total employment, column (2) on a dummy that takes the value one if the firm exits the market that year, column (3) on a dummy that takes the value one if the firm had at least one federal procurement contract, and column (4) on the logarithm of one plus the total amount contracted with federal procurement. The term HC_i is based on the audited municipality in which the firm was exposed, and we input this value for the actual control of the exposed firm. In panel A, the heterogeneity is based on a dummy that takes value one if the audit took place in the last two years of the mayors' mandate. In panel B, the heterogeneity dummy takes value one if the audit was done in a municipality with a mayor in its second and last mandate. In panel C (D), the dummy takes the value one if there is a local radio (newspaper) in the audited municipality. The sample consists of audited firms and their matched controls. Section 4.1 details the matching method. Standard errors clustered at firm level reported in parentheses. Significance level: *** p<0.01, ** p<0.05, * p<0.1.