

ONLINE APPENDIX
REVEALING MALFEASANCE: HOW LOCAL MEDIA FACILITATES
ELECTORAL SANCTIONING OF MAYORS IN MEXICO

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I. Variable definitions

Change in incumbent party vote share. The change in incumbent vote share, as a proportion of total votes cast, in a given electoral precinct. Where the incumbent is part of a coalition, we count the vote share of the affiliation of the mayor at the next election. For around a quarter of municipalities in the sample we hand-coded the mayor's affiliation. Source: IFE and State Electoral Institutes.

Change in incumbent party vote share at next election. The change in incumbent vote share between the pre-audit incumbent vote share and the mayor's party's municipal vote share two elections later. Source: IFE and State Electoral Institutes.

Incumbent re-elected. Indicator coded one where the incumbent party is re-elected (municipal level variation). Incumbents are defined as above. Source: IFE and State Electoral Institutes.

Incumbent precinct vote share (lag). The vote share of the incumbent party in a given electoral precinct at the previous election. Source: IFE and State Electoral Institutes.

Incumbent victory margin (lag). The difference between the largest and the second large party in a given electoral precinct at the last election. Source: computed from IFE and State Electoral Institutes.

PRI. Indicator coded one if the incumbent coalition includes the PRI. Source: computed from IFE data and State Electoral Institutes.

Coalition partners. The number of parties in the incumbent mayor's coalition. Source: computed from IFE and State Electoral Institutes.

Unauthorized spending. Percentage of FISM funds spent in an unauthorized manner. See text for further discussion. The variables Corrupt Q3 and Corrupt Q4 are separately defined by the third and fourth quartiles of our full sample and GRD sample. Source: ASF audit reports.

Spending not on the poor. Percentage of FISM funds spent not spent on the poor. See text for further discussion. The variables Not poor Q3 and Not poor Q4 are separately defined by the third and fourth quartiles of our full sample and GRD sample. Source: ASF audit reports.

Registered voters. The number of voters registered to vote in the electoral precinct. Source: IFE and State Electoral Institutes.

Area (km²). Electoral precinct area in square kilometers. Source: computed from IFE data.

Local media. The total number of AM, FM and TV stations emitting from within an electoral precinct's municipality. Source: computed from IFE data.

Local AM/FM/TV. The total number of AM/FM/TV stations emitting from within the municipality. Source: computed from IFE data.

Non-local media. The total number of AM, FM and TV stations emitting from outside an electoral precinct's municipality. Source: computed from IFE data.

State media. The total number of AM, FM and TV stations emitting from outside an electoral precinct's municipality but within the municipality's state. Source: computed from IFE data.

Non-state media. The total number of AM, FM and TV stations emitting from outside an electoral precinct's state. Source: computed from IFE data.

Share employed. Percentage of the electoral precinct population employed in 2010. Source: Mexican 2010 Census.

Share illiterate. Percentage of the electoral precinct population aged above 15 that is illiterate in 2010. Source: Mexican 2010 Census.

Share with household necessities. Percentage of households in a given electoral precinct with electricity, piped water, toilet and drainage. Source: Mexican 2010 Census.

Current schooling scale. Summative rating scale combining several measures of the percentage of the electoral precinct population that currently attends schooling. In particular, we combine the following variables: percentage of the population aged between 6 and 11 that goes to school; percentage of the population aged between 12 and 14 that goes to school; percentage of the population aged between 15 and 17 that goes to school; percentage of the population aged between 6 and 17 that goes to school; and percentage of the population aged between 18 and 24 that goes to school. Cronbach's alpha of 0.82. Source: computed from Mexican 2010 Census data.

Completed schooling scale. Summative rating scale combining several measures electoral precinct school completion. In particular, we combine the percentage for schooling levels: no schooling above 15; incomplete primary; complete primary; incomplete secondary; complete secondary. Cronbach's alpha of 0.75. Source: computed from Mexican 2010 Census data.

Share with household amenities. Average number of households in a given electoral precinct with a refrigerator, a washing machine, a car or truck, a landline, a cellphone, or internet access in 2010. Source: Mexican 2010 Census.

Share with internet. Percentage of households in the electoral precinct with an internet connection in 2010. Source: Mexican 2010 Census.

II. Audit reports

Figures 1 and 2 provide an example of an audit report from 2008 for the municipality of Ajalpan in the state of Puebla.

III. Lack of balance across media stations

Table 1 shows that the number of local media stations that cover an electoral precinct is strongly correlated with a variety of socio-economic development indicators. In particular, we find that precincts with more local media stations are inhabited by household that are more literate, possess more household necessities and amenities (see variable definitions above), and are more likely to also be connected to the internet. In short, precincts with more media stations are more developed.

IV. Balance over audits in the neighbors sample

The sample of neighboring precincts that vary in their local media coverage differs from the DD sample because it is a subset of the precincts where municipal elections occurring in the years

FONDO PARA LA INFRAESTRUCTURA SOCIAL MUNICIPAL
INDICADORES PARA APOYAR LA VALORACIÓN DEL CUMPLIMIENTO
DE METAS Y OBJETIVOS DEL FONDO
MUNICIPIO DE AJALPAN, PUEBLA
CUENTA PÚBLICA 2008

Concepto	Valor del Indicador
I. OPORTUNIDAD EN EL EJERCICIO DEL FONDO	
1.1 Nivel de gasto al 31 de diciembre. (% ejercido del monto asignado).	55.8
1.2 Nivel de gasto al 31 de julio de 2009 (% ejercido del monto asignado).	86.9
II.- CUMPLIMIENTO DE LA PROGRAMACIÓN	
II.1 Obras del programa inicial aprobado por el cabildo que fueron ejecutadas. (%)	100.0
II.2 Monto de las obras del programa inicial aprobado por el cabildo que fueron ejecutadas. (%)	100.0
II.3 Cumplimiento de las metas físicas aprobadas de las obras y acciones de la muestra de auditoría. (% de las obras y acciones de la muestra de auditoría que cumplieron con sus metas físicas).	100.0
III.- APLICACIÓN DE LOS RECURSOS	
III.1 Recursos ejercidos en obras y acciones que no beneficiaron a población en rezago social y pobreza extrema (% respecto del monto total ejercido del FISM).	11.1
III.2 Recursos ejercidos en obras y acciones que no beneficiaron directamente a población en rezago social y pobreza extrema (% respecto de la muestra de auditoría).	11.4
III.3 Recursos ejercidos en rubros no autorizados por la Ley de Coordinación Fiscal (% respecto del monto total ejercido del FISM)	41.8
III.4 Destino de la inversión en obras y acciones por rubro y gasto (%)	
1.- Agua Potable.	8.1
2.- Alcantarillado.	2.6
3.- Drenaje y letrinas.	0.0
4.- Urbanización municipal.	23.4
5.- Electrificación rural y de colonias pobres.	1.1
6.- Infraestructura básica de salud.	0.0
7.- Infraestructura básica de educación.	16.0
8.- Mejoramiento de vivienda.	0.9
9.- Caminos rurales.	11.5
10.- Infraestructura productiva rural.	0.0
11.- Desarrollo Institucional.	0.0
12.- Gastos indirectos.	0.0
13.- Otros.	36.4
Total	100.0
III.5 Inversión en pavimentos y obras similares (% del monto total ejercido del FISM).	19.1
III.6 Inversión en la cabecera municipal (% del monto total ejercido del FISM).	18.8
III.7 Población en la cabecera municipal en 2008 (% de la población total del municipio).	45.3
III.8 Proporción de viviendas particulares habitadas respecto del total, que no disponen de:	
Agua entubada de red pública (%).	31.3
Drenaje. (%).	55.5
Energía eléctrica. (%).	6.6
III.9 ¿Se destinaron recursos del FISM al Desarrollo Institucional?, Si o No.	NO
a) ¿El municipio convino el programa de Desarrollo Institucional con el Ejecutivo Federal - SEDESOL- y con el Ejecutivo Estatal?, Si o No.	NO
III.10 Recursos aplicados en Desarrollo Institucional que no corresponden con los objetivos de este rubro (% del monto ejercido en Desarrollo Institucional).	0.0
IV.- RESULTADOS	
IV.1 Situación constructiva y operativa de las obras visitadas (distribución % de las obras visitadas).	
A) número de obras visitadas 38	100.0
1. Obras Terminadas	94.7
a) Operan adecuadamente.	100.0
b) No operan adecuadamente.	0.0
c) No operan.	0.0
2. Obras en proceso.	5.3
3. Obras suspendidas.	0.0

Figure I. Sample ASF audit report (page 1)

Notes: Extracted from the ASF audit report on the use of FIMS funds by the municipal government of the municipality of Ajalpan in the state of Puebla in 2008. The red squares indicate the lines where the ASF reports the FISM funds spent “in an unauthorized manner” and the share spent on projects “not benefiting the poor.”

IV.2 Procuración de las preservación y protección del medio ambiente (% de las obras de la muestra de auditoría que cuentan con la validación de no impacto ambiental desfavorable).	100.0
IV.3 Satisfacción de los beneficiarios de las obras revisadas (% de las obras revisadas en las que los beneficiarios están satisfechos).	100.0
V.- PARTICIPACIÓN SOCIAL	
V.1 Obras y acciones de la muestra de auditoría autorizadas por el Comité de Planeación para el Desarrollo Municipal (COPLADEM) ó Consejo de Desarrollo Municipal (CDM) (%).	100.0
V.2 Inversión en obras y acciones de la muestra de auditoría que fueron autorizadas por el COPLADEM ó CDM (%).	100.0
V.3 Obras y acciones de la muestra de auditoría que cuentan con la solicitud de la comunidad (%).	100.0
V.4 Inversión en obras y acciones de la muestra de auditoría que cuentan con solicitud de la comunidad (%).	100.0
V.5 Obras terminadas de la muestra de auditoría que cuentan con acta de entrega recepción a la comunidad y al organismo operador (%).	100.0
V.6 Obras y acciones de la muestra de auditoría con acta de entrega recepción suscrita por el representante del Comité Pro Obra (%).	100.0
V.7 Nivel de operación y participación social del COPLADEM o CDM	
a) ¿Existe y opera en el municipio el COPLADEM o CDM?, Si o No.	SI
b) En su caso, ¿Opera regularmente el COPLADEM o CDM? [criterio: opera regularmente cuando sesiona al menos 3 veces al año], Si o No.	SI
c) Número de sesiones de trabajo que tuvo el COPLADEM o CDM en el año.	3
d) Número de representantes sociales que en promedio participaron en las sesiones del COPLADEM o CDM	105
VI.- TRANSPARENCIA EN LA APLICACIÓN DE RECURSOS	
VI.1 Entrega de informes trimestrales a la SEDESOL sobre el ejercicio del fondo (% de informes entregados respecto de los previstos enviar).	0.0
VI.2 Entrega de informes trimestrales a la SHCP sobre el ejercicio, destino y resultados obtenidos de los recursos de los fondos (% de informes entregados respecto de los previstos entregar).	50.0
VI.3 Difusión de la información enviada a la SHCP sobre el ejercicio del gasto y que fue publicada en los órganos locales oficiales de difusión, Internet u otro medio local de difusión (% de informes difundidos respecto a los previstos difundir).	0.0
a) ¿La información de los informes trimestrales reportados a la SHCP coinciden con los registros contables del municipio?, Si o No.	NO
b) ¿La calidad de la información de los informes trimestrales reportados a la SHCP fue adecuada; está desglosada por obra y acción, y coincide con los registros contables del municipio?, Si o No.	SI
VI.4 Difusión de las obras y acciones a realizar (% del monto asignado al fondo que fue difundido al inicio del ejercicio, respecto de las obras y acciones por realizar, con su costo, ubicación, metas y beneficiarios).	0.0
a) ¿Se difundió adecuadamente entre la población, al inicio del ejercicio, el monto recibido del FISM, así como las obras y acciones a realizar, su costo, ubicación, metas y beneficiarios?, Si o No.	NO
VI.5 Difusión de los resultados Alcanzados (% de la inversión ejercida en obras y acciones, que se difundieron e informaron a la población, al cierre del ejercicio, junto con sus resultados)	0.0
a) ¿Se difundieron adecuadamente entre la población, al final del ejercicio, las obras y acciones realizadas, su costo, ubicación, metas y beneficiarios, Si o No.	NO
VII.- FINANZAS MUNICIPALES	
VII.1 Importancia del fondo respecto a los recursos propios municipales	2,379.8
VII.2 Importancia del fondo respecto a las participaciones fiscales	153.7
VII.3 Importancia del fondo respecto a los recursos propios municipales y participaciones fiscales	144.4
VII.4 Proporción de la inversión del fondo en obra pública respecto a la inversión total en obra pública, del municipio	91.2
VII.5 Importancia del fondo respecto al monto total del presupuesto aprobado 2008 del municipio	47.2
VII.6 Variación de los ingresos propios municipales 2008 - 2007	14.3

FUENTE: Información proporcionada por el municipio de Ajalpan, Puebla *Censo de Población 2005, INEGI.

Figure II. Sample ASF audit report (page 2)

Note: See Figure 1.

Table I. Precinct-level correlation of media stations with other socioeconomic variables

	Share employed	Share illiterate	Share with household necessities	Share with household amenities	Share with internet
Local media	-0.000 (0.000)	-0.002*** (0.000)	0.009*** (0.001)	0.007*** (0.001)	0.007*** (0.001)
Observations	42,595	42,595	42,595	42,595	42,595

Notes: All specifications include year fixed effects, and are estimated using OLS. Standard errors are clustered by municipality. * denotes $p < 0.1$, ** denotes $p < 0.05$, *** denotes $p < 0.01$.

before and after an audit is released. Consequently, effective random assignment of audits may no longer hold. Table 2 provides summary statistics for the GRD sample, and compares municipalities by the timing of their audit’s release. First, corruption is six percentage points less prevalent in the GRD sample, while media coverage is slightly larger, and precincts are generally less socio-economically developed. Second, there are few significant differences between precincts in municipalities audited before and after elections when comparing precincts where an audit was released before and after an election.

V. Additional results

Table 3 shows that controlling for the the total number of non-local media stations does not affect balance in our GRD design. This is not surprising since the GRD breaks the correlation between the number of local media stations and non-local media stations. Nevertheless, this represents an important placebo further demonstrating that we not picking up differences in non-local media stations. Furthermore, the balance tests suggest that estimates for non-local media are unlikely to be biased too.

Table II. Summary statistics by audit status (neighbor sample)

	Control (no audit) mean	Audit difference	
Unauthorized spending	0.059	0.013	(0.022)
Corrupt Q3	0.240	0.114	(0.092)
Corrupt Q4	0.156	0.030	(0.063)
Spending not on the poor	0.064	0.042	(0.028)
Not poor Q3	0.259	-0.047	(0.091)
Not poor Q4	0.125	0.123*	(0.065)
Incumbent precinct vote share (lag)	0.470	0.015	(0.019)
Incumbent victory margin (lag)	0.117	0.031	(0.030)
Coalition partners	1.856	-0.204	(0.208)
Registered voters	1,332.64	39.53	(143.81)
Area (km ²)	72.267	0.140	(19.640)
Local media	10.743	3.181	(2.717)
Non-local media	12.373	-0.325	(2.120)
Share employed	0.954	0.002	(0.003)
Share illiterate	0.089	-0.005	(0.010)
Share with household necessities	0.669	0.056	(0.034)
Current schooling scale	0.718	0.016**	(0.008)
Completed schooling scale	0.309	-0.026***	(0.008)
Share with household amenities	0.529	0.039	(0.024)
Share with internet	0.123	0.045*	(0.027)

Notes: The audit difference results are from a regressions of the outcome variables on the left-hand-side of the table on an indicator for an audit being released the year before an election, where standard errors clustered by municipality election are in parentheses. There are 19,922 observations for each variable. * denotes $p < 0.1$, ** denotes $p < 0.05$, *** denotes $p < 0.01$.

Table III. GRD balance checks, controlling for non-local media share

	Unauthorized spending (1)	Corrupt Q3 (2)	Corrupt Q4 (3)	Spending not on poor (4)	Not poor Q3 (5)	Not poor Q4 (6)	Registered voters (7)	Turnout (lag) (8)
Local media	-0.001 (0.003)	0.001 (0.003)	-0.003 (0.007)	-0.001 (0.004)	0.009 (0.007)	-0.001 (0.005)	15.826 (14.406)	-0.001 (0.001)
Non-local media	0.000 (0.002)	-0.002 (0.002)	0.002 (0.005)	-0.000 (0.003)	-0.002 (0.004)	-0.004 (0.004)	-18.155 (13.988)	0.000 (0.001)

	PAN incumbent (9)	PRI incumbent (10)	PRD incumbent (11)	Share employed (12)	Share illiterate (13)	Share with household necessities (14)	Share with household amenities (15)	Share with internet (16)
Local media	0.023*** (0.007)	-0.008 (0.006)	-0.015*** (0.006)	0.000 (0.000)	-0.000 (0.000)	-0.000 (0.001)	0.001 (0.001)	0.002*** (0.001)
Non-local media	0.007 (0.005)	-0.003 (0.004)	-0.004 (0.004)	0.000* (0.000)	0.000 (0.000)	-0.002*** (0.001)	0.000 (0.000)	0.001 (0.001)

Notes: All specifications include match and year fixed effects, use up to two possible matches, and are estimated using OLS. All regressions have 19,230 observations. Standard errors are clustered by municipality-year. * denotes $p < 0.1$, ** denotes $p < 0.05$, *** denotes $p < 0.01$.

Table IV. The effect of audits revealing corruption (GRD sample)

	Change in incumbent vote share			Incumbent re-elected		
	(1)	(2)	(3)	(4)	(5)	(6)
Audit	0.015 (0.026)	0.007 (0.030)	0.027 (0.033)	0.121 (0.096)	0.078 (0.094)	0.174 (0.111)
Corrupt	0.068 (0.044)		0.076* (0.041)	0.509*** (0.166)		0.499*** (0.166)
Audit × Corrupt	-0.054 (0.051)		-0.060 (0.049)	-0.240 (0.250)		-0.206 (0.256)
Not poor		0.018 (0.047)	0.038 (0.051)		-0.016 (0.135)	0.135 (0.156)
Audit × Not poor		-0.034 (0.068)	-0.038 (0.070)		-0.231 (0.283)	-0.311 (0.274)
Observations	19,230	19,230	19,230	19,230	19,230	19,230
R^2	0.51	0.50	0.51	0.73	0.70	0.73

Notes: All specifications include pre-treatment controls and match and year fixed effects, use up to two possible matches, and are estimated using OLS. All regressions have 19,230 observations except Panel A which contains 16,947 observations. Standard errors are clustered by municipality-year. * denotes $p < 0.1$, ** denotes $p < 0.05$, *** denotes $p < 0.01$.

Table 4 presents our DD estimates for the GRD sample. Due to the significant decline in sample size, and the fact that the GRD estimates only identify off within-match variation (and thus only from matches cross municipality borders), our estimates are considerably noisier. Nevertheless, the point estimates are very similar to those in the Table 4 of the main paper. The similarity is not surprising given that the full and GRD samples are similar in composition (see Tables 1 and 3).

Table 5 estimates the triple interaction between revealing corruption or not spending on the poor by the number of local media stations in the DD sample. As noted in the main text, we find broadly similar results to the results exploiting exogenous variation in local media.

Table V. Effects of local media publicizing audits reports revealing malfeasance before an election (DD sample)

	Change in incumbent vote share	
	(1)	(2)
Audit	0.006 (0.021)	0.004 (0.023)
Local media	-0.001 (0.001)	-0.001 (0.002)
Audit × Local media	0.002 (0.002)	0.005** (0.002)
Corrupt Q3	-0.002 (0.024)	
Audit × Corrupt Q3	-0.032 (0.038)	
Audit × Corrupt Q3 × Local media	0.003 (0.004)	
Local media	0.000 (.)	
Corrupt Q4	-0.062 (0.040)	
Audit × Corrupt Q4	0.065 (0.055)	
Audit × Corrupt Q4 × Local media	-0.011*** (0.004)	
Not poor Q3		0.019 (0.026)
Audit × Not poor Q3		-0.009 (0.038)
Audit × Not poor Q3 × Local media		-0.004 (0.003)
Not poor Q4		-0.035 (0.048)
Audit × Not poor Q4		0.041 (0.058)
Audit × Not poor Q4 × Local media		-0.013*** (0.004)
Observations	45,935	45,935
R^2	0.08	0.09

Notes: All specifications include demographic and socioeconomic controls and year fixed effects, and are estimated using OLS. The omitted category for corruption and not spending on the poor is Q1 and Q2. Standard errors are clustered by municipal election. * denotes $p < 0.1$, ** denotes $p < 0.05$, *** denotes $p < 0.01$.