

"Political Competition and State Capacity"

Evidence from a Land Allocation Program in Mexico

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Motivation

Study the determinants of state capacity under clientelism

While state capacity is key for development, political stability, and democracy

(Acemoglu, 2005; T. Besley & Persson, 2010; Dell, Lane, & Querubin, 2017; Dincecco & Katz, 2016; Soifer, 2015)

- ▶ We lack a convincing understanding of its modern determinants
 - Specially in clientelistic settings, common in LMIC countries
 - ► Clientelism: exchange of goods and services for political support
- Q: How does political competition influence state capacity building in clientelistic contexts?
 - On the one hand: Increasing accountability, demand for public goods, & redistribution (Besley et al., 2010; Naidu, 2012)
 - ► On the other hand: Clientelisitc incumbents might strategically respond to it by deterring investments in state capacity to remain in power

This Paper

In a nutshell

- ► What we do
 - Model incentives to build a state, under clientelism (Probabilistic Voting Model)
 - Test implications with data from México from 1910 to 1992
- ► Main theoretical argument ► model details
 - A1 Bureaucratic/Administrative capacity: Key determinant of the cost of providing public goods
 - A2 Clientelistic Incumbents: comparative advantage in transfers vs. public good provision.
- ightarrow R1 Clientelistic parties may oppose investments in state capacity
- → R2 Especially when confronted with political competition
- Main empirical finding
 - ► The PRI, in Mexico, strategically deterred bureaucratic state capacity building via *ejido* allocation (communal lands) where it expected/experienced stronger political opposition

Institutional Background

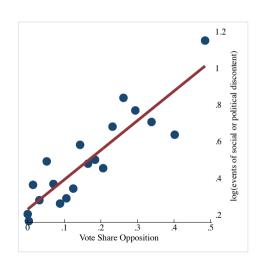
Ejidos, clientelism, and state capacity

- ► After the Mexican Revolution: Land reform through the allocation of Ejidos
 - ► More than 50% of all agricultural land distributed from 1910-1992
 - ► Central to the consolidation of PRI: creating a dependent and well-monitored clientele
 - ► Communities relocated to localities with communal property rights ("tied" to their land)
- Proximity to municipal head key determinant of administrative capacity (Herbst, 2000)
 - lacktriangle Affect the cost of providing public goods in t and t+1
 - lacktriangle Impact the credibility of the opposition about the provision of public goods in t+1
- → PRI might influence state capacity via selection of distance to municipal heads.
- → Distance of land allocated in form of ejidos as a proxy of local state capacity choices

Institutional Background

Social and political unrest and the PRI's response in the 1960s

- ➤ The PRI's power was essentially uncontested from 1920s to 1950s
- ► The 1950's economic crisis ignite multiple centers of social discontent
 - ► Partially explained by extreme drought events during the 1950's
- ► This discontent was channeled into organized political opposition



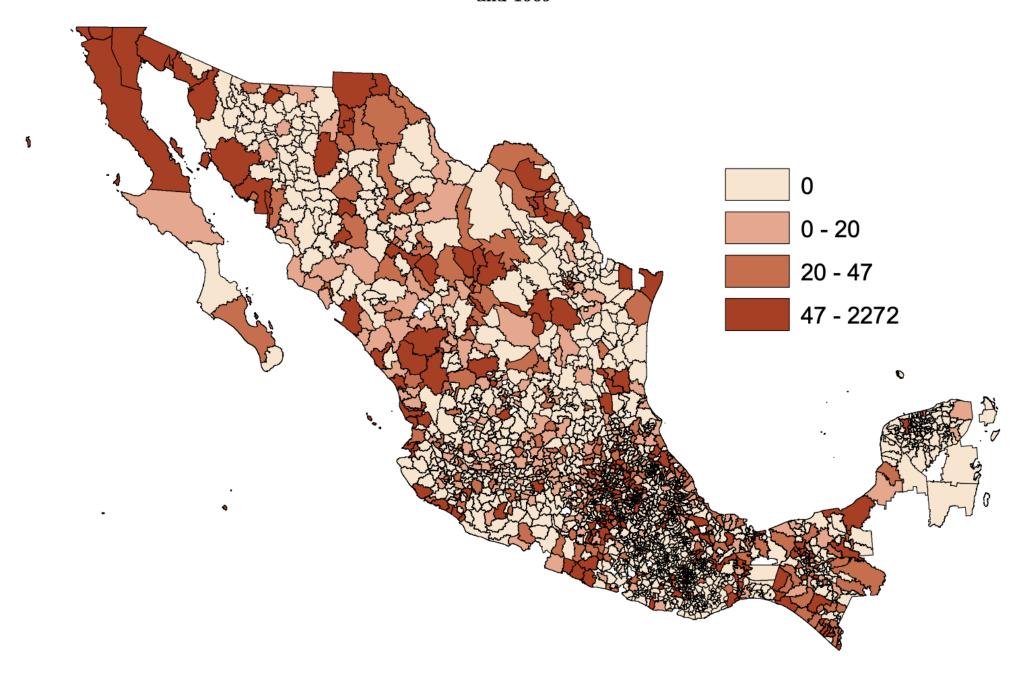
Data

- Mapping of *ejidos* to localities with spatial data from *Programa de Certificación de Derechos Ejidales y Titulación de Solares*, PROCEDE.
- Spatial data on the location of localities, and municipality heads from INEGI
- Data on the creation dates of ejidos from Padrón e Historial de Núcleos Agrarios, PHINA.
- Election data from *Base de datos BANAMEX-CIDAC*, and electoral institutes of all states.
- 2000 census data from *Instituto Nacional de Estadística y Geografía*, INEGI.

Ejidos are more than half of agricultural land in Mexico



Figure 3: Number of social and political events reflecting discontent (per 100,000 inhabitants in 1930) between 1960 and 1969



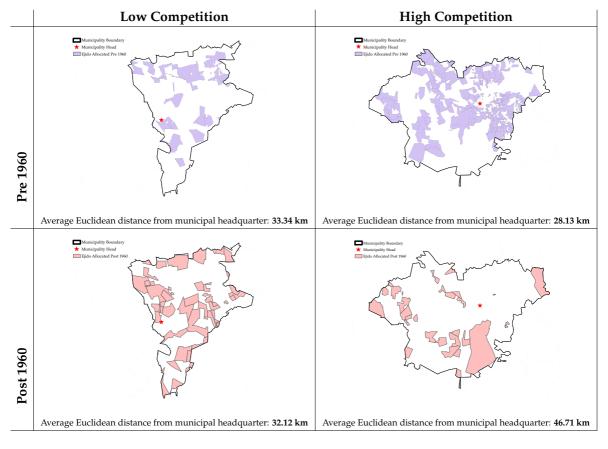
Empirical Strategy

Test if PRI forestalled local state capacity via ejido allocation

- Did PRI grant ejidos farther away?
 - ▶ Relative to land allocation patterns before its power was contested circa the 1960s
 - Precisely in those places where it faced more opposition?
- Simple difference-in-differences strategy
 - For Ejido e allocated in municipality m at time tDistance_{e,m,t} = $\gamma \cdot (\text{Post1960}_{e,m,t} \times \text{Political Competition}_m) + \eta_m + \delta_t + \varepsilon_{e,m,t}$,
- Since political competition might be endogenous to the process of land allocation

$$\begin{split} \mathsf{Post1960}_{e,m,t} \times \mathsf{Political} \ \mathsf{Competition}_m &= \hat{\gamma} \cdot \left(\mathsf{Post1960}_{e,m,t} \times \mathsf{Droughts}_{m,1950s} \right) \\ &+ \hat{\eta}_m + \hat{\delta}_t + \hat{\varepsilon}_{e,m,t}, \end{split}$$

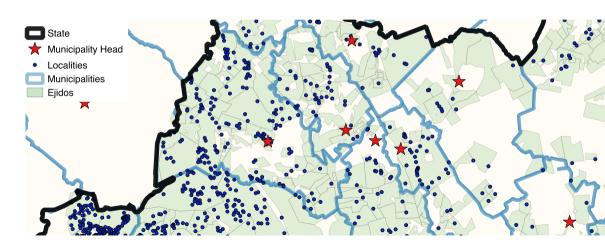
Figure 1: Allocation of ejidos within two similar municipalities in Durango



Notes: Both municipalities belong to the same state (Durango) and are similar in area and land available for redistribution. High and Low competition is defined based on whether the vote share for opposition parties is above or below the median.

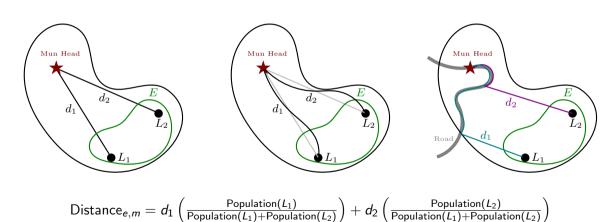
Computation of distances

Example administrative divisions and location of ejidos



Computation of distances

Formula and type of distances



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Distance and Public Good Provision

Negatively related

Observations

R-squared

	(1)	(2)	(3)	(4)
	Share of ho	useholds in loc	cality with	Number of
Dependent variable:	Piped water	Drainage	Electricity	Schools per capita
Panel A: Localities in 1990				
Distance of <i>ejido</i> locality from municipal headquarters	-0.0017***	-0.0010***	-0.0033***	-0.0022***
	(0.0003)	(0.0002)	(0.0005)	(0.0004)
Observations	31,958	31,958	31,958	31,958
R-squared	0.3152	0.2769	0.3903	0.1022

(0.0003)

41.005

0.3118

(0.0004)

41.005

0.4255

(0.0004)

41.005

0.3713

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(0.0006)

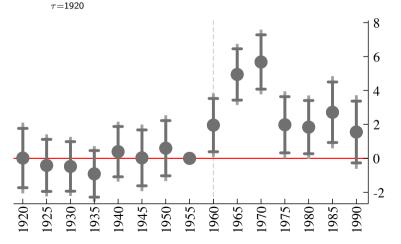
41,005

0.2113

Baseline result and plausibility of the identification assumption

The effect of political competition on the distance of ejidos from municipal headquarters

$$\mathsf{Distance}_{\mathsf{e},m,t} = \sum_{\tau}^{\mathsf{1990}} \gamma_{\tau} \cdot [1(t=\tau)_{\mathsf{e},m,t} \times \mathsf{Political} \ \mathsf{Competition}_m] + \eta_m + \delta_t + \varepsilon_{\mathsf{e},m,t},$$



Baseline Regressions

Competition measured as the Vote Share of Opposition Parties

	(1)	(2)	(3)	(4)
Dependent variable:	Distance of <i>ejido</i> from municipality head			$\begin{array}{c} Post1960 \\ \times \\ Competition \end{array}$
Econometric Specification	OLS	IV	Reduced Form	First Stage
Post 1960 $ imes$ Competition	3.243** (1.308)	7.077*** (2.717)		
Post 1960 \times Months with Droughts 1950-1959	, ,	, ,	0.34*** (0.05)	2.43** (0.99)
R-squared F statistic (Kleibergen-Paap rk Wald)	0.579	-	-	0.621 38.99
Observations	17,059	17,059	17,059	17,059
Municipality Fixed Effects	✓	✓	✓	\checkmark
Year of Allocation Fixed Effects	\checkmark	\checkmark	\checkmark	\checkmark
Mean dependent variable	19.15	19.15	19.15	-

Ruling-out alternative hypothesis

Additional exercises

- - Consider a battery of geographical and predetermined characteristics that could be confounded with political competition.
 - ▶ Show that even controlling for them interacted with the post-1960 dummy, the results hold.
- ► Mean Reversion or Ceiling Effects ► so
 - Results are not confounded by the municipal land available for redistribution and its proximity to municipal headquarters.
- Appeasing the Opposition
 - Increased competition might lead the PRI to increase ejido allocations to appease the opposition or to increase the distribution of marginal, lower-quality land located farther from municipal headquarters → No evidence of this
- ► Isolating Insurgents and Potential Opposition
 - ▶ Results might reflect the PRI's strategy to deal with potential insurgents or citizen checks on the government by relocating them to more isolated areas through the allocation of ejidos.

Conclusion

- Despite its benefits, investment in state capacity cannot be taken for granted
- Our study unveils theoretically and empirically the potentially perverse effect of political competition on state capacity (i.e., on economic development)
- ▶ Political incentives might push political elites to forestall, rather than encourage, a stronger state
- ▶ We provide evidence of this mechanism in the context of the influence of the PRI in Mexico from 1920-1992.
- ► These results help to inform another important and related question: How can re-distributive land reform influence state capacity building?



Table 1: Distance from municipal headquarters and political competition: OLS and

Instrume	-	_	inical competition	ion. OLS un
Baseline results, ejidos allocated from 1914 to 19	992			
, , , , , , , , , , , , , , , , , , ,	(1)	(2)	(3)	(4)
Dependent variable:	fro	Post1960 × Competition		
Econometric Specification	OLS	IV	Reduced Form	First Stage
Panel A: Competition measured as the Vote Share o	f Oppositi	on Parties		
Post 1960 × Competition	3.243** (1.308)	7.077*** (2.717)		
Post 1960 × Months with Droughts 1950-1959		, ,	0.34*** (0.05)	2.43** (0.99)
R-squared F statistic (Kleibergen-Paap rk Wald)	0.579	-	-	0.621 38.99
Observations	17,059	17,059	17,059	17,059
Panel B: Competition measured as the number of E	vents of So	ocial and Po	olitical Discontent 1	1960-1969
Post 1960 \times Competition	2.391** (1.056)	9.847** (4.728)		
Post 1960 × Months with Droughts 1950-1959	(**************************************	(**************************************	0.21*** (0.07)	2.08** (0.96)
R-squared F statistic (Kleibergen-Paap rk Wald)	0.581	-	-	0.516 9.518
Observations	17,239	17,239	17,239	17,239
Controls for all specifications:				
Municipality Fixed Effects Year of Allocation Fixed Effects	√ √	√ √	√ √	√ ✓

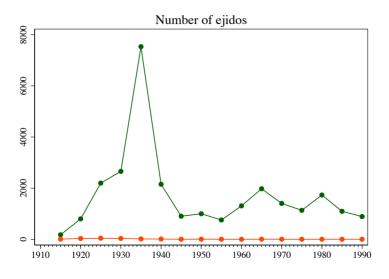
Table 2: Distance from the municipal headquarters and political competition: Accounting for the area of agricultural land available for redistribution and stock of land granted by quartiles of distance from the municipal headquarter

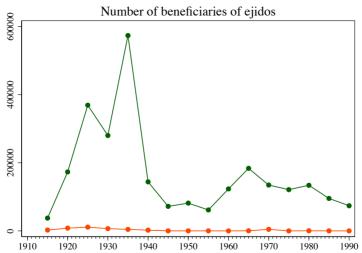
Dependent variable: Distance of <i>ejido</i> from municipal headquarters					
	(1)	(2)	(3)	(4)	
Competition measured as:		osition share	Events of Social and Political Discontent		
Econometric Specification:	OLS	IV	OLS	IV	
Panel A: Controlling for the area of agricultural land available for redistribution by quartiles of distance from the municipal headquarters at time t					
Post $1960 \times Competition$	2.945** (1.323)	6.133** (2.566)	2.188** (0.961)	8.564** (4.322)	
R-squared First Stage R-Squared First Stage Partial F	0.591	0.630 41.06	0.593	0.522 11.29	
Panel B: Controlling for the stock of land granted by quartiles of distance from the municipal headquarters up to time t					
Post $1960 \times Competition$	2.912** (1.313)	6.541** (2.644)	2.134** (0.988)	9.243** (4.538)	
R-squared First Stage R-Squared First Stage Partial F	0.588	0.628 40.52	0.590	0.520 10.67	
Panel C: Controlling for the area of agricultural land available for redistribution by quartiles of distance from the municipal headquarters in 1959					
Post $1960 \times Competition$	2.320* (1.231)	6.092** (2.843)	2.323** (0.981)	7.923* (4.276)	
R-squared First Stage R-Squared First Stage Partial F	0.584	0.637 38.98	0.587	0.522 11.40	
Panel D: Controlling for the stock of land granted by quartiles of distance from the municipal headquarters in 1959					
Post $1960 \times Competition$	2.375** (1.178)	5.475** (2.593)	2.223** (0.955)	7.588* (4.166)	
R-squared First Stage R-Squared First Stage Partial F	0.584	0.631 40.27	0.587	0.519 10.19	
Controls for all specifications: Municipality Fixed Effects Year of Allocation Fixed Effects	√ ✓	√ ✓	√ ✓	√ ✓	
Observations	17,031	17,031	17,207	17,207	

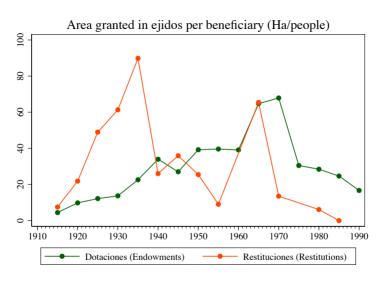
Table 3: Amount of land and political competition: Is it about appeasing the opposition?

	(1)	(2)	(3)	(4)	
Competition measured as:		osition share	Events of Social and Political Discontent		
Econometric Specification:	OLS	IV	OLS	IV	
Panel A: Dependent variable: Number of allocated eji	dos				
Post $1960 \times Competition$	-0.00 (0.00)	-0.01 (0.02)	-0.01*** (0.00)	-0.01 (0.02)	
Observations R-squared	130,704 0.12	130,704 0.00	130,704 0.12	130,704 0.01	
First Stage R-squared First Stage F statistic (Kleibergen-Paap rk Wald)		0.466 48.53		0.469 35.12	
Panel B: Dependent variable: Number of beneficiaries	of ejidos				
Post $1960 \times Competition$	-0.08 (0.30)	-0.89 (1.56)	-0.71** (0.35)	-0.97 (1.69)	
Observations R-squared	130,218 0.09	130,218 0.00	130,218 0.09	130,218 0.00	
First Stage R-squared First Stage F statistic (Kleibergen-Paap rk Wald)		0.467 48.43		0.470 35.12	
Panel C: Dependent variable: Area granted in ejidos p	ver benefici	iary			
Post $1960 \times Competition$	-0.06 (0.09)	-0.24 (0.52)	-0.11 (0.09)	-0.26 (0.57)	
Observations R-squared First Stage R-squared First Stage F statistic (Kleibergen-Paap rk Wald)	130,220 0.06	130,220 0.00 0.464 47.09	130,220 0.06	130,220 0.00 0.466 34.27	
Controls for all specifications: Municipality Fixed Effects Year of Allocation Fixed Effects	✓ ✓	√ ✓	✓ ✓	✓ ✓	

Figure A-1: Evolution of new land endowments, and restitutions

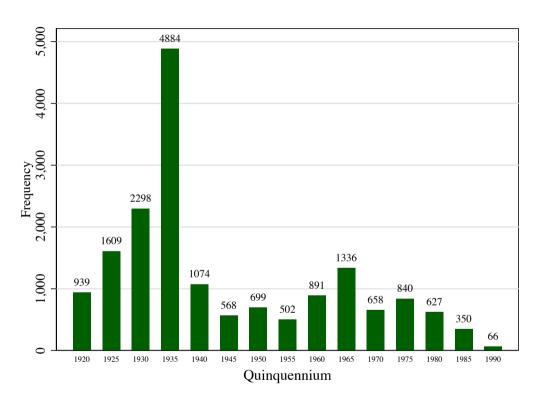






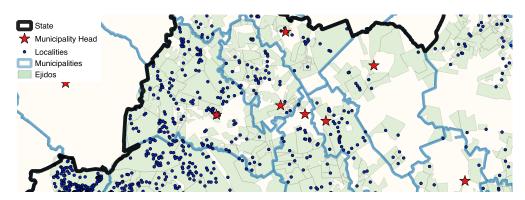
Notes: The number of events refers to the number of approved petitions. Authors' calculation with data from the *Padrón e Historial de Núcleos Agrarios*

Figure A-2: Allocation of ejidos over time



Notes: Number of allocated *ejidos*. Authors' calculation with data from the *Padrón e Historial de Núcleos Agrarios - PHINA*. *Baseline sample of municipalities with political information data*.

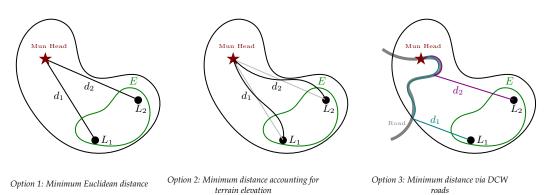
Panel A: Example of location and distribution of main geographical features in the administrative data



This panel presents an excerpt of the location of ejidos and the administrative divisions of Mexico. The country is divided into 31 states and its capital city. States, at the same time, are divided into municipalities. There are 2,448 municipalities in which there exist around 200,000 population centers or Localities. Only one of the localities in each municipality serves as municipality seat.

Panel B: Computation of distances of ejido from municipality head

Consider a hypothetical municipality similar to those presented in Panel A, with *ejidos* that may include multiple localities. This municipality has one *ejido* (E) with two localities: L_1 and L_2 . Each locality has a number on inhabitants given by Population(L_1) and Population(L_2), respectively. Let d_1 and d_2 denote the distances of these localities form the municipal headquarters. We compute different measures of d_1 and d_2 depending on whether or not they account for terrain and roads as illustrated in the following figures:



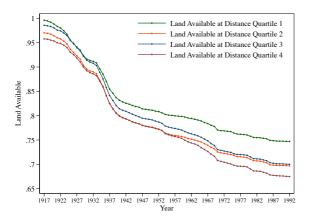
Using each of these options we defined the distance of *ejido* (*E*) from the municipal headquarters as:

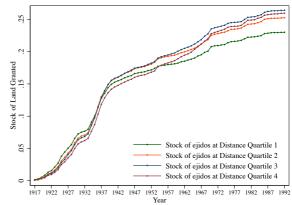
$$d(E, \text{Mun headquarter}) = d_1 \left(\frac{\text{Population}(L_1)}{\text{Population}(L_1) + \text{Population}(L_2)} \right) + d_2 \left(\frac{\text{Population}(L_2)}{\text{Population}(L_1) + \text{Population}(L_2)} \right).$$

In other words, it is the population-weighted average distance form the municipal headquarters to the localities within *ejido E*.

Notes: The distance from a locality to the municipal headquarters accounting for elevation terrain profile (Option 2) penalizes the minimum Euclidean distance (Option 1) when there are changes in altitude between them. The distance via DCW roads (Option 3) accounts for the use of roads to reach the municipal headquarters. The trace of those roads comes from the Digital Chart of the World of 1992 and the overall distance of each locality from its municipal headquarters is computed adding up two different figures. First, the Euclidean distance from the locality to the closest point in a road that leads to the municipallity head, and second, the length of the segment that connects such point to the municipal headquarters following the road path.

Figure A-4: Calculating the stock of ejidos and land available for redistribution





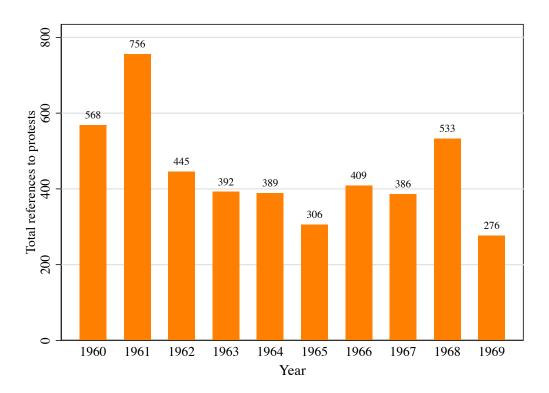
In Table 2, we present our baseline results after controlling for the stock of agricultural land still available for redistribution and the amount of ejido land distributed by quartiles of distance from the municipal headquarters. In order to compute these measures, we divide the country into a synthetic grid of 2km by 2km. We then calculate the distance from the centroid of each one of these grid cells to the municipal headquarters that corresponds to the municipality where most of the grid cell's area falls. We then classify the grid cells into four quartiles using the distribution of the distances within each municipality. We then create a panel at the grid-year level (\approx 33'350, 000 observations) in which we compute for each grid cell the fraction of the grid area distributed in the form of ejidos as well as the agricultural land up to year t. We define agricultural land as the land that was not classified as desert or water body according to INEGI's shapefiles of land use. Finally, we aggregate these measures at the municipality-year level as follows,

$$\{ \text{Land Available at Distance Quartile } q \}_{m,t} = \frac{\sum_{c=1}^{grids_{m,q}} \text{Agricultural Land}_{c,q,m,t} - \sum_{c=1}^{grids_{m,q}} \text{Area of } ejidos_{c,q,m,t-1}}{\sum_{c=1}^{grids_{m,q}} \text{Total area}_{c,q,m}}$$

$$\{ \text{Stock of land granted at Distance Quartile } q \}_{m,t} = \frac{\sum_{c=1}^{grids_{m,q}} \text{Area of } ejidos_{c,q,m,t-1}}{\sum_{c=1}^{grids_{m,q}} \text{Total area}_{c,q,m}}$$

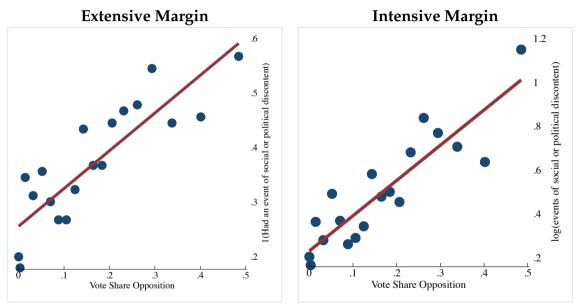
where c indexes grid cells, q distance quartiles, m municipalities, and t years. $grids_{m,q}$ is the total number of grid cells in municipality m that belongs to distance quartile q.

Figure A-5: Number of social and political events reflecting discontent per year



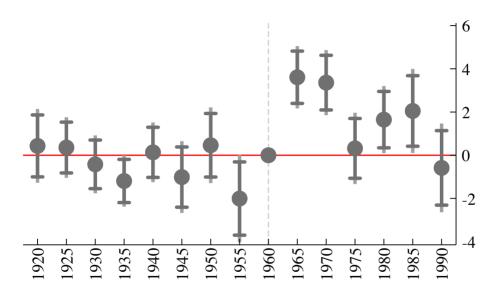
Notes: Total number of social and political events reflecting discontent per year as reported in news articles referring to protests, strikes, demonstrations, riots and marches (excluding national and state-level protests for which the municipality where they occurred is not specified). Authors' calculation with news from *Excelsior* and *El Universal*.

Figure A-6: Opposition Vote share and Events of Social and Political Discontent



Notes: Figures represent bin-scatters at the municipality level. Opposition vote share = 1 - PRI vote share. The number of events reflecting social and political discontent are counted during the period 1960-1969 using references to related events in two Mexican newspapers with national coverage: *El Universal* and *Excelsior*, further details in appendix A.1

Figure A-7: The effect of expected political competition (events of social and political discontent) on the distance of *ejidos* from municipal headquarters over time



Notes: Estimates, and 95 and 99 percent confidence intervals, of the regression of the distance of the allocated *ejidos* from their municipal headquarters on municipality fixed effects, quinquennium fixed effects, and the interaction of the standardized events of social and political discontent events from 1960-1969 and the full set of quinquennium dummies. The omitted quinquennium is 1960 and represented by the coefficient without confidence intervals.

Table A-1: OLS estimates: Clientelism and incumbency status

The party gives or promises [...] to citizens as inducement to obtain their votes.

Dependent variable is:	Consumer Goods	Public Social Policy Schemes	Preferential Access to Public Sector Employment	Preferential Access to Government Contracts	Influence Regulatory Rules	Clientelism Index
	(1)	(2)	(3)	(4)	(5)	(6)
Mean dependent variable:	57.34	64.30	60.94	60.69	60.31	60.60
Incumbent Party	8.9141***	10.8692***	10.2314***	13.0603***	10.8299***	10.9964***
	(1.7343)	(1.5545)	(1.5382)	(1.8733)	(1.4407)	(1.5571)
Controlling for ideology (left-right)	Yes	Yes	Yes	Yes	Yes	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	505	505	505	505	505	505
R-squared	0.7963	0.6740	0.7787	0.7459	0.7248	0.7477

Notes: Observations at the political party level. The sample includes 505 parties across 88 countries observed in 2009 by the Democratic Accountability and Linkages Project. Data includes all democratic polities of at least two million inhabitants with a minimum recent experience of two rounds of national electoral competition under at least semidemocratic conditions. The latter were identified in terms of average civil and political rights scores of at least 4.0, as awarded by the annual Freedom House survey. Beyond this set of countries, a few prominent countries with multi-party electoral politics were included (Egypt, Indonesia, Malaysia, Pakistan, Russia). Dependent variables come from the average results of expert surveys within the country evaluating the statement: "Consider whether candidates and parties give or promise to citizens [...] as inducement to obtain their votes. How much effort do this party expend to attract voters providing or promising [...]." Where [...] corresponds to any of the options specified in the columns 1 to 5. All dependent variables range from 0 to 100 where 100 represent a major effort. Incumbent is a dummy equal to one if the party received the maximum average vote share in the country in the last two legislative elections. Clientelism Index is the average of the responses used in columns 1 to 5. Clustered errors at the country level in parenthesis.*** p < 0.05, * p < 0.05, * p < 0.1

Table A-2: Classification of opposition parties

Party		Opposition
abbreviation	Name details and coalitions	classification
PST	Partido Socialista de los Trabajadores	Friendly
PRT	Partido Revolucionario de los Trabajadores	Unfriendly
PRDPRT	PRD + PRT	Unfriendly
PRDPPSPFCRN	PRD + PPS + PFCRN (Frente Cardenista de Reconstruccion Nacional)	Unfriendly
PRDPMT	PRD + PMT	Unfriendly
PRD	Partido de la Revolucion Democratica	Unfriendly
PPS	Partido Popular Socialista	Friendly
PPM	Partido del Pueblo Mexicano	Unfriendly
PMT	Partido Mexicano de los Trabajadores	Unfriendly
PFCRNPMSPPS	PFCRN + PMS + PPS	Friendly
PDM	Partido Democrata Mexicano	Unfriendly
PCM	Partido Comunista Mexicano	Unfriendly
PCDP	Partido del comite de Defensa Popular	Unfriendly
PC	Previous PCM	Unfriendly
PARM	Partido Autentico de la Revolucion Mexicana	Friendly
PAN	Partido de Accion Nacional	Unfriendly
Other	Votes for other parties not specified in electoral database	Unfriendly

Notes: The parties listed are the full set of PRI opposition parties registered in the BANAMEX-CIDAC electoral database for municipal races in our sample period for computing electoral competition (1980s). A party is classified as friendly if it is listed as 'parastatal' in (Molinar & Weldon, 1990) and (Peiro, 1998).

Table A-3: Summary statistics

		Standard		
	Mean	deviation	N	
A. Public goods				
a. Census of Schools in 2011				
Number of public schools per capita within 5km of the locality				
- Active and established before 1990	0.729	2.331	199,391	
- Active and established before 2000	0.958	3.279	199,391	
b. Census in 2000			,	
Share of households in locality with				
- Piped water	0.455	0.407	107,218	
- Drainage	0.282	0.322	107,218	
- Electricity	0.674	0.391	107,218	
c. Census in 1990			•	
Share of households in locality with				
- Piped water	0.316	0.375	97,484	
- Drainage	0.131	0.229	97,484	
- Electricity	0.423	0.422	97,484	
B. Bureaucratic state capacity Varying by locality: -Distance of locality to municipal headquarters (km) -Distance of locality from municipal headquarters accounting for terrain elevation profile (km) -Distance of locality from municipal headquarters (km) via DCW roads Varying by ejido: -Distance of ejido from municipal headquarters (km) -Distance of ejido from municipal headquarters accounting for terrain elevation profile (km) -Distance of ejido from municipal headquarters via DCW roads (km)	19.152 19.219 21.582 18.848 18.894 21.262	21.604 22.023 23.406 21.335 21.257 22.239	199,393 199,393 199,393 17,239 17,239	
C. Municipal political competition Average of 1980s elections:				
-Opposition vote share	0.159	0.140	2,023	
- Vote share friendly opposition	0.139	0.060	2,023	
- Vote share infriendly opposition	0.020	0.000	2,023	
- vote share difficility opposition	0.155	0.131	2,023	
Discontent 1960-1969:				
Events of social and political discontent				
- Log (1+ number of events of social and political discontent)	0.386	0.762	2,440	
0,				
D. Instrument for political competition and events of social and political discontent Months with droughts 1950-1959	58.535	25.628	2,440	

Notes: Opposition vote share = 1 - PRI vote share. The number of events reflecting social and political discontent are counted during the period 1960-1969 using references to events in two Mexican newspapers with national coverage, $El\ Universal\$ and Excelsior. Further details in appendix A.1.

Table A-4: Additional summary statistics

Agricultural constraints (FAO) 0.181 0.377 22,819			Standard	
Population Density 1900 (people/Km2) 2,000		Mean	deviation	Observations
Population Density 1900 (people/Km2) 2,000				
Average monthly rainfall (mm) 90.62 51.987 2.437 Aliani variability (Standard deviation of monthly rainfall) 78.051 40.352 2.436 Average soil humidity (Standard deviation of soil humidity) 31.21 30.248 2.456 Average allitude (m) 1438.143 30.248 2.456 Average allitude (m) 25.543 30.277 2.2519 Agricultural constraints (FAO) 3.181 3.377 2.2519 Inherent land quality index (U.S. Department of Agriculture) 25.548 2.2943 Average by municipality and years 25.548 25.548 2.2943 Average by municipality and years 25.548 25.54		24 OE1	20.427	2 200
Rain Variability (Standard deviation of monthly rainfall) 78.05 40.35 2.437 Average soil humidity (Days) 197.40 83.08 2.456 Soil humidity variability (Standard deviation of soil humidity) 34.23 30.28 2.456 Average altitude (m) 15.05 15.05 15.05 15.05 2.456 Ruggedness (Standard deviation of altitude) 25.05 25.05 2.2819 2.2819 Be Ejido land quality 4.700 25.06 2.2819 2.2819 2.2819 Inherent land quality index (U.S. Department of Agriculture) 4.700 2.56 2.2943 2.2819 C. Variables for robustness checks 4.700 2.56 2.2943 2.2819 1.610 1.610 1.6175 2.566 2.943 2.2819 1.610 1.6175 2.566 2.2943 2.2819 1.610 2.943 2.566 2.2819 1.610 2.943 2.2819 1.610 2.943 2.2819 1.610 2.943 2.2819 1.610 2.2819 1.610 2.2819 1.610 2.2819 <				
Average soil humidity (Days) 38.098 2,456 Soil humidity (variability (Standard deviation of soil humidity) 34.21 30.248 2,456 Average allitude (m) 1,438.143 876.307 2,566 Ruggedhess (Standard deviation of altitude) 0.181 2,566 2,566 B. Ejido land quality 4,706 2,586 22,819 Agricultural constraints (FAO) 0.181 0.377 22,819 Inherent land quality index (U.S. Department of Agriculture)				,
Soil Inmidity variability (Standard deviation of soil humidity) 4,243 30,248 2,456 Average altitude (m) 255,643 189,214 2,456 Ruggedness (Standard deviation of altitude) 255,643 189,214 2,456 B. Ejido land quality 4,706 258,64 2,281 Disciplination of a quality index (U.S. Department of Agriculture) 0,181 0,377 22,819 C. Variables for robustness checks 2,243 2,243 2,243 Varying by municipality and year: 5,141 0,791 164,715 - Stock of allocated ejidos 0,141 0,791 164,715 - Stock of allocated ejidos 1,346 88,401 164,715 - Stock of allocated ejidos 1,346 88,401 164,715 - Area granted in ejidos per beneficiaries of ejidos 1,346 88,401 164,715 - Land Available in Distance Quantille 1 (As fraction of total area in distance quantile 2) 0,792 0,289 179,740 - Land Available in Distance Quantille 2 (As fraction of total area in distance quantile 3) 0,80 0,222 179,740 - Land Available in Dis				
Average altitude (m)				•
Reggedness (Standard deviation of altitude) 255.643 189.214 2,456				
B.	0 , ,	•		
Agricultural constraints (FAO) 1.81 0.377 22.819 1.8	ruggeuness (Standard deviation of attitude)	233.043	109.214	2,400
Inherent land quality index (U.S. Department of Agriculture)	B. Ejido land quality			
Varying by municipality and year:	Agricultural constraints (FAO)	0.181	0.377	22,819
Number of allocated ejidos 0.141 0.791 164,715	Inherent land quality index (U.S. Department of Agriculture)	4.706	2.586	22,943
Number of allocated ejidos 0.141 0.791 164,715	C. Variables for robustness checks			
Number of allocated ejidos 0.141 0.791 164,715	Varuino hu municinalitu and uear			
Stock of allocated ejidos 6.109 10.642 164,715 -Number of beneficiaries of ejidos 13.468 88.401 164,715 -Area granted in ejidos per beneficiary (Ha/people) 2.994 34.085 164,715 -Land Available in Distance Quantile 1 (As fraction of total area in distance quantile 1) 0.828 0.256 179,740 -Land Available in Distance Quantile 3 (As fraction of total area in distance quantile 3) 0.803 0.272 179,740 -Land Available in Distance Quantile 4 (As fraction of total area in distance quantile 3) 0.803 0.272 179,740 -Land Available in Distance Quantile 4 (As fraction of total area in distance quantile 4) 0.782 0.304 179,740 -Land Available in Distance Quantile 4 (As fraction of total area in distance quantile 4) 0.154 0.228 179,740 -Stock of land granted in form of ejidos at Distance Quantile 1 (As fraction of total area in distance quantile 2) 0.163 0.23 179,740 -Stock of land granted in form of ejidos at Distance Quantile 3 (As fraction of total area in distance quantile 3) 0.167 0.232 179,740 -Stock of land granted in form of ejidos at Distance Quantile 4 (As fraction of total area in distance quantile 3) 0.167 0.		0.141	0.791	164 715
Number of beneficiaries of ejidos 13.468 88.401 164,715				•
-Area granted in ejidos per beneficiary (Ha/people) -Land Available in Distance Quantile 1 (As fraction of total area in distance quantile 2) -Land Available in Distance Quantile 2 (As fraction of total area in distance quantile 2) -Land Available in Distance Quantile 3 (As fraction of total area in distance quantile 3) -Land Available in Distance Quantile 4 (As fraction of total area in distance quantile 3) -Land Available in Distance Quantile 4 (As fraction of total area in distance quantile 4) -Land Available in Distance Quantile 4 (As fraction of total area in distance quantile 4) -Stock of land granted in form of ejidos at Distance Quantile 1 (As fraction of total area in distance quantile 1) -Stock of land granted in form of ejidos at Distance Quantile 2 (As fraction of total area in distance quantile 2) -Stock of land granted in form of ejidos at Distance Quantile 3 (As fraction of total area in distance quantile 3) -Stock of land granted in form of ejidos at Distance Quantile 3 (As fraction of total area in distance quantile 3) -Stock of land granted in form of ejidos at Distance Quantile 4 (As fraction of total area in distance quantile 3) -Stock of land granted in form of ejidos at Distance Quantile 4 (As fraction of total area in distance quantile 4) -Stock of land granted in form of ejidos at Distance Quantile 4 (As fraction of total area in distance quantile 4) -Stock of land granted in form of ejidos at Distance Quantile 4 (As fraction of total area in distance quantile 4) -Stock of land granted in form of ejidos at Distance Quantile 4 (As fraction of total area in distance quantile 4) -Stock of land granted in form of ejidos at Distance Quantile 4 (As fraction of total area in distance quantile 1) -Stock of land granted in form of ejidos at Distance Quantile 2 in 1959 (As fraction of total area in distance quantile 2) -Stock of land granted in form of ejidos at Distance Quantile 2 in 1959 (As fraction of total area in distance quantile 4) -Stock of land granted in form of ejidos at Distanc				,
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-Stock of land granted in form of ejidos at Distance Quantile 2 (As fraction of total area in distance quantile 2) 0.163 0.23 179,740 -Stock of land granted in form of ejidos at Distance Quantile 3 (As fraction of total area in distance quantile 3) 0.167 0.232 179,740 -Stock of land granted in form of ejidos at Distance Quantile 4 (As fraction of total area in distance quantile 4) 0.159 0.233 179,740 Varying by municipality: - Number of ranchos and haciendas 47.033 90.628 2,455 - Social capital in 1994 (Principal component) 0 1.445 2,455 - Population density in 1960 (people / km2) 64.573 345.753 2,389 - Population in the municipal headquarters in 1960 (people) 5,723.717 24,873.226 2,371 - Municipal Bureaucrats 1940 0.747 10.259 2,386 - Federal and State Bureaucrats 1940 216.413 10,396.091 2,386 - Land Available at Distance Quantile 1 in 1959 (As fraction of total area in distance quantile 2) 0.757 0.292 2,365 - Land Available at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 4) 0.750 0.275 2,365 - Land Available at Distance Quantile 4 in 1959 (As fraction of total area in distance quantile 4) 0.781 0.254 2,365 - Stock of land granted in form of ejidos at Distance Quantile 2 in 1959 (As fraction of total area in distance quantile 2) 0.751 0.292 2,365 - Stock of land granted in form of ejidos at Distance Quantile 2 in 1959 (As fraction of total area in distance quantile 2) 0.751 0.292 2,365 - Stock of land granted in form of ejidos at Distance Quantile 2 in 1959 (As fraction of total area in distance quantile 2) 0.752 0.235 2,365 - Stock of land granted in form of ejidos at Distance Quantile 2 in 1959 (As fraction of total area in distance quantile 2) 0.795 0.235 2,365 - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 2) 0.195 0.235 2,365		0.154	0.228	179,740
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Varying by municipality: - Number of ranchos and haciendas - Social capital in 1994 (Principal component) - Population density in 1960 (people/km2) - Population in the municipal headquarters in 1960 (people) - Population in the municipal headquarters in 1960 (people) - Population and State Bureaucrats 1940 - Federal and State Bureaucrats 1940 - Land Available at Distance Quantile 1 in 1959 (As fraction of total area in distance quantile 1) - Land Available at Distance Quantile 2 in 1959 (As fraction of total area in distance quantile 2) - Land Available at Distance Quantile 4 in 1959 (As fraction of total area in distance quantile 3) - Land Available at Distance Quantile 4 in 1959 (As fraction of total area in distance quantile 4) - Stock of land granted in form of ejidos at Distance Quantile 1 in 1959 (As fraction of total area in distance quantile 4) - Stock of land granted in form of ejidos at Distance Quantile 2 in 1959 (As fraction of total area in distance quantile 2) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 2) - Stock of land granted in form of ejidos at Distance Quantile 2 in 1959 (As fraction of total area in distance quantile 2) - Stock of land granted in form of ejidos at Distance Quantile 2 in 1959 (As fraction of total area in distance quantile 2) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 2) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) - Stock of land granted in form of ejidos a		0.167	0.232	179,740
- Number of ranchos and haciendas - Social capital in 1994 (Principal component) - On 1.445 - Social capital in 1994 (Principal component) - Population density in 1960 (people/km2) - Population in the municipal headquarters in 1960 (people) - Population in the municipal headquarters in 1960 (people) - Federal and State Bureaucrats 1940 - Federal and State Bureaucrats 1940 - Land Available at Distance Quantile 1 in 1959 (As fraction of total area in distance quantile 2) - Land Available at Distance Quantile 2 in 1959 (As fraction of total area in distance quantile 3) - Land Available at Distance Quantile 4 in 1959 (As fraction of total area in distance quantile 4) - Stock of land granted in form of ejidos at Distance Quantile 2 in 1959 (As fraction of total area in distance quantile 2) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 2) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 2) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 2) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 2) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3)	-Stock of land granted in form of ejidos at Distance Quantile 4 (As fraction of total area in distance quantile 4)	0.159	0.233	179,740
- Number of ranchos and haciendas - Social capital in 1994 (Principal component) - On 1.445 - Social capital in 1994 (Principal component) - Population density in 1960 (people/km2) - Population in the municipal headquarters in 1960 (people) - Population in the municipal headquarters in 1960 (people) - Federal and State Bureaucrats 1940 - Federal and State Bureaucrats 1940 - Land Available at Distance Quantile 1 in 1959 (As fraction of total area in distance quantile 2) - Land Available at Distance Quantile 2 in 1959 (As fraction of total area in distance quantile 3) - Land Available at Distance Quantile 4 in 1959 (As fraction of total area in distance quantile 4) - Stock of land granted in form of ejidos at Distance Quantile 2 in 1959 (As fraction of total area in distance quantile 2) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 2) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 2) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 2) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 2) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3)	Varying by municipality:			
- Social capital in 1994 (Principal component) - Population density in 1960 (people/km2) - Population in the municipal headquarters in 1960 (people) - Population in the municipal headquarters in 1960 (people) - Municipal Bureaucrats 1940 - Federal and State Bureaucrats 1940 - Land Available at Distance Quantile 1 in 1959 (As fraction of total area in distance quantile 2) - Land Available at Distance Quantile 2 in 1959 (As fraction of total area in distance quantile 3) - Land Available at Distance Quantile 4 in 1959 (As fraction of total area in distance quantile 3) - Land Available at Distance Quantile 4 in 1959 (As fraction of total area in distance quantile 3) - Stock of land granted in form of ejidos at Distance Quantile 2 in 1959 (As fraction of total area in distance quantile 2) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 2) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 2) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 2) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 2) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3)		47.033	90.628	2,455
- Population in the municipal headquarters in 1960 (people) - Municipal Bureaucrats 1940 - Federal and State Bureaucrats 1940 - Land Available at Distance Quantile 1 in 1959 (As fraction of total area in distance quantile 2) - Land Available at Distance Quantile 2 in 1959 (As fraction of total area in distance quantile 2) - Land Available at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) - Land Available at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) - Land Available at Distance Quantile 4 in 1959 (As fraction of total area in distance quantile 4) - Stock of land granted in form of ejidos at Distance Quantile 2 in 1959 (As fraction of total area in distance quantile 2) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 2) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3)		0	1.445	2,455
- Population in the municipal headquarters in 1960 (people) - Municipal Bureaucrats 1940 - Federal and State Bureaucrats 1940 - Land Available at Distance Quantile 1 in 1959 (As fraction of total area in distance quantile 2) - Land Available at Distance Quantile 2 in 1959 (As fraction of total area in distance quantile 2) - Land Available at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) - Land Available at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) - Land Available at Distance Quantile 4 in 1959 (As fraction of total area in distance quantile 4) - Stock of land granted in form of ejidos at Distance Quantile 2 in 1959 (As fraction of total area in distance quantile 2) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 2) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3)	- Population density in 1960 (people/km2)	64.573	345.753	2,389
- Federal and State Bureaucrats 1940 - Land Available at Distance Quantile 1 in 1959 (As fraction of total area in distance quantile 1) - Land Available at Distance Quantile 2 in 1959 (As fraction of total area in distance quantile 2) - Land Available at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) - Land Available at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) - Land Available at Distance Quantile 4 in 1959 (As fraction of total area in distance quantile 4) - Stock of land granted in form of ejidos at Distance Quantile 1 in 1959 (As fraction of total area in distance quantile 1) - Stock of land granted in form of ejidos at Distance Quantile 2 in 1959 (As fraction of total area in distance quantile 2) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3)		5,723.717	24,873.226	2,371
- Land Available at Distance Quantile 1 in 1959 (As fraction of total area in distance quantile 1) 0.798 0.264 2,365 - Land Available at Distance Quantile 2 in 1959 (As fraction of total area in distance quantile 2) 0.757 0.292 2,365 - Land Available at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) 0.77 0.275 2,365 - Land Available at Distance Quantile 4 in 1959 (As fraction of total area in distance quantile 4) 0.753 0.306 2,365 - Stock of land granted in form of ejidos at Distance Quantile 1 in 1959 (As fraction of total area in distance quantile 1) 0.181 0.234 2,365 - Stock of land granted in form of ejidos at Distance Quantile 2 in 1959 (As fraction of total area in distance quantile 2) 0.195 0.235 2,365 - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) 0.198 0.236 2,365	- Municipal Bureaucrats 1940	0.747	10.259	2,386
- Land Available at Distance Quantile 2 in 1959 (As fraction of total area in distance quantile 2) 0.757 0.292 2,365 - Land Available at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) 0.77 0.275 2,365 - Land Available at Distance Quantile 4 in 1959 (As fraction of total area in distance quantile 4) 0.753 0.306 2,365 - Stock of land granted in form of ejidos at Distance Quantile 1 in 1959 (As fraction of total area in distance quantile 1) 0.181 0.234 2,365 - Stock of land granted in form of ejidos at Distance Quantile 2 in 1959 (As fraction of total area in distance quantile 2) 0.195 0.235 2,365 - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) 0.198 0.236 2,365	- Federal and State Bureaucrats 1940	216.413	10,396.091	2,386
- Land Available at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) 0.77 0.275 2,365 - Land Available at Distance Quantile 4 in 1959 (As fraction of total area in distance quantile 4) 0.753 0.306 2,365 - Stock of land granted in form of ejidos at Distance Quantile 1 in 1959 (As fraction of total area in distance quantile 1) 0.181 0.234 2,365 - Stock of land granted in form of ejidos at Distance Quantile 2 in 1959 (As fraction of total area in distance quantile 2) 0.195 0.235 2,365 - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) 0.198 0.236 2,365	- Land Available at Distance Quantile 1 in 1959 (As fraction of total area in distance quantile 1)	0.798	0.264	2,365
- Land Available at Distance Quantile 4 in 1959 (As fraction of total area in distance quantile 4) 0.753 0.306 2,365 - Stock of land granted in form of ejidos at Distance Quantile 1 in 1959 (As fraction of total area in distance quantile 1) 0.181 0.234 2,365 - Stock of land granted in form of ejidos at Distance Quantile 2 in 1959 (As fraction of total area in distance quantile 2) 0.195 0.235 2,365 - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) 0.198 0.236 2,365	- Land Available at Distance Quantile 2 in 1959 (As fraction of total area in distance quantile 2)	0.757	0.292	2,365
- Stock of land granted in form of ejidos at Distance Quantile 1 in 1959 (As fraction of total area in distance quantile 1) 0.181 0.234 2,365 - Stock of land granted in form of ejidos at Distance Quantile 2 in 1959 (As fraction of total area in distance quantile 2) 0.195 0.235 2,365 - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) 0.198 0.236 2,365		0.77	0.275	2,365
- Stock of land granted in form of ejidos at Distance Quantile 2 in 1959 (As fraction of total area in distance quantile 2) 0.195 0.235 2,365 - Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) 0.198 0.236 2,365		0.753		2,365
- Stock of land granted in form of ejidos at Distance Quantile 3 in 1959 (As fraction of total area in distance quantile 3) 0.198 0.236 2,365				•
				2,365
- Stock of land granted in form of ejidos at Distance Quantile 4 in 1959 (As fraction of total area in distance quantile 4) 0.186 0.238 2,365				•
	- Stock of land granted in form of ejidos at Distance Quantile 4 in 1959 (As fraction of total area in distance quantile 4)	0.186	0.238	2,365

Notes: Agricultural constraints is an indicator that the land presents few constraints for agriculture. The inherent land quality index varies from 1 (low quality) to 9 (high quality). Social capital in 1994 is the first principal component of the number of human rights organizations, popular fronts and peasants. The land available is calculated as the potential agricultural land in 2007 minus the stock of allocated *ijidos* by year. Further details on the construction of land available by distance quartiles are in Appendix Figure A-4. The number of events reflecting social and political discontent are counted during the period 1960-1969 using references to related events in two Mexican newspapers with national coverage: *El Universal* and *Excelsior*, further details in appendix A-1.

Table A-5: Most common words identifying events of social and political discontent

Freq	Word	Freq	Word	Freq	Word	Freq	Word
770	huelga	139	aumento	99	miembros	82	intervencion
626	campesinos	136	policia	99	problema	82	servicio
511	trabajadores	131	agua	99	grupos	82	lider
368	estudiantes	129	escuela	98	habitantes	81	republica
368	tierras	128	zona	98	comision	81	secretario
318	gobierno	127	comercio	97	movimiento	80	palacio
308	gobernador	125	piden	96	situacion	80	guerrero
304	sindicato	124	terrenos	95	municipios	80	capital
279	ciudad	118	personas	95	manifestacion	79	representantes
274	presidente	118	apoyo	95	ejidales	77	mil
261	ejidatarios	117	federal	94	departamento	75	funcionarios
254	nacional	115	obreros	94	agrarias	75	federales
254	municipal	110	mexico	93	local	75	propietarios
253	grupo	109	poblacion	92	comerciantes	75	colectivo
252	autoridades	108	municipio	92	problemas	74	alcalde
245	denuncian	107	compania	90	pagos	74	puebla
231	maestros	106	pobladores	89	exigen	74	ley
220	protesta	106	ejercito	89	denuncia	73	descontento
190	universidad	105	falta	88	lideres	73	agrarios
173	empresa	105	comunidades	88	dias	73	pais
172	conflicto	103	mitin	87	despojo	72	ayuntamiento
149	paro	102	san	86	federacion	71	revision
146	union	101	entidad	86	municipales	71	acuerdo
145	general	100	frente	83	ejidal	71	alumnos
141	contrato	99	industria	82	estudiantil	70	region

Notes: Frequency of most common words across news headlines after filtering most common words in spanish.

Table A-6: Ejido distance from municipal headquarters and public goods provision

	(1)	(2)	(3)	(4)
	Share of hous	seholds in loci	ality with	Number of
Dependent variable:	Piped water	Drainage	Electricity	Schools per capita
Panel A: Localities in 1990				
Distance of <i>ejido</i> locality from municipal headquarters	-0.0017***	-0.0010***	-0.0033***	-0.0022***
Distance of syme is carry from manacipal near aquainers	(0.0003)	(0.0002)	(0.0005)	(0.0004)
	(0.000)	(0.000_)	(01000)	(0.000)
Observations	31,958	31,958	31,958	31,958
R-squared	0.3152	0.2769	0.3903	0.1022
Panel B: Localities in 2000	-0.0011***	-0.0018***	-0.0023***	-0.0028***
Distance of <i>ejido</i> locality from municipal headquarters		0.00-0		
	(0.0003)	(0.0004)	(0.0004)	(0.0006)
Observations R-squared	41,005 0.3118	41,005 0.4255	41,005 0.3713	41,005 0.2113

Notes: Cross-section of localities that overlap with ejidos. All specifications include municipality fixed effects. Robust standard errors in parentheses are clustered at the municipality level, Distance of ejido from municipal headquarters refers to the population-weighted minimum Euclidean distance of the ejido localities from the municipal headquarters (See Appendix Figure A-3 for details). The number of public schools in 2000 and 1990 is the number of active public schools funded before 2000 and 1990, respectively. It is computed within a 5km radius around the locality. Population comes from the 2000 and 1990 census of localities., *** p < 0.01, ** p < 0.05, * p < 0.1.

Table A-7: Predetermined Covariate Balance

Dependent variable:	Population Density in 1900	Average monthly rainfall	Rain variability	Average soil humidity	Soil humidity variability	Average altitude	Ruggedness (altitude variability)	Agricultural Constraints	Inherent land Quality index	Municipal Bureaucrats 1940	Federal and State Bureaucrats 1940
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)		
Opposition Vote Share	5.146***	-3.195**	-2.817**	-0.977	-1.367**	-19.846	-20.316***	0.012	0.147	0.135***	1.272***
	(1.223)	(1.451)	(1.303)	(3.203)	(0.502)	(25.489)	(5.483)	(0.014)	(0.105)	(0.035)	(0.185)
Observations	1,566	1,676	1,676	1,679	1,679	1,679	1,679	1,675	1,677	1,644	1,644
R-squared	0.282	0.590	0.524	0.090	0.031	0.534	0.236	0.446	0.294	0.219	0.130
Events of Social and Political Discontent	5.665***	-0.589	-0.626	-1.116	-0.501	-10.287	6.382	0.009	0.029	0.246***	2.664***
	(1.645)	(0.807)	(0.858)	(2.514)	(1.067)	(24.435)	(5.903)	(0.014)	(0.046)	(0.030)	(0.219)
Observations	1,566	1,676	1,676	1,676	1,676	1,676	1,676	1,672	1,674	1,643	1,643
R-squared	0.289	0.586	0.519	0.088	0.030	0.533	0.228	0.445	0.292	0.268	0.206
Months with Droughts 1950-1959	1.176	-15.841***	-7.516	-9.168***	-1.147	-93.392**	-31.374**	0.072**	0.094	0.012	0.678**
	(1.059)	(5.503)	(5.135)	(2.848)	(0.890)	(42.299)	(12.929)	(0.035)	(0.219)	(0.025)	(0.307)
Observations	1,566	1,676	1,676	1,679	1,679	1,679	1,679	1,675	1,677	1,644	1,644
R-squared	0.262	0.632	0.535	0.096	0.030	0.539	0.241	0.465	0.292	0.200	0.113
State Fixed Effects	\checkmark	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Notes: All variables in rows are standardized. Robust standard errors in parentheses are clustered at the state level, *** p<0.01, ** p<0.05, * p<0.1. Regressions are at the municipality level, with the dependent variable as indicated in each column title. The sample of municipalities is the one entering in the baseline regression, see the notes to Appendix Table A-3 and the main text for exact definitions. The measure of droughts refers to the number of months from 1950 to 1959 in which the monthly rainfall was strictly lower than the long-run average of each particular month, and therefore accounting for seasonality and non-expected periods of low rainfall. The number of events reflecting social and political discontent are counted during the period 1960-1969 using references to related events in two Mexican newspapers with national coverage: El Universal and Excelsior, further details in appendix A-1

Table A-8: Distance from municipal headquarters and political competition: Controlling for trends based on predetermined variables

Dependent variable: Distance of a	<i>ijido</i> from municipal l	neadquarters
	(1)	(2)
Competition measured as:	Opposition vote share	Events of Social and Political Discontent
Post 1960 \times Competition	3.415*** (1.281)	1.985** (0.982)
Observations	15,848	16,085
R-squared	0.584	0.585
Controls for all specifications:		
Post $1960 \times \text{Covariates}$	\checkmark	\checkmark
Municipality Fixed Effects	\checkmark	\checkmark
Year of Allocation Fixed Effects	\checkmark	\checkmark

Notes: Robust standard errors in parentheses are clustered at the municipality level, *** p < 0.01, ** p < 0.05, * p < 0.1. Regressions are at the *ejido* level. Competition refers to political competition measured at the municipality level using the variable indicated in each column (see the notes to Appendix Table A-3 and the main text for exact definitions). Distance of *ejido* from municipal headquarters refers to the population-weighted minimum Euclidean distance of the *ejido* localities from the municipal headquarters (See Appendix Figure A-3 for details). All competition measures are standardized. All regressions are controlling for geographic variables, climatic variables, and municipal bureaucratic capacity measures all interacted with a post-1960 indicator in Appendix Table A-7

Table A-9: Test for weak instruments and weak-IV robust inference

	(1)	(2)					
Dependent variable: Distance of <i>ejido</i> from municipal headquarters							
Model Estimation	IV	IV					
Panel A: Estimates from the baseline specification							
	Opposition vote share	Events of Social and Political Discontent					
Post 1960 × Competition	7.077***	9.847**					
•	(2.710)	(4.716)					
Observations	17,059	17,239					
Kleibergen-Paap rk Wald F statistic	39.166	9.559					

Panel B: Test under the null hypothesis that instruments are weak

	Critical value (result)		
Stock-Yogo test (iid errors)			
b = 25%	5.53 (Rejected)	5.53 (Rejected)	
b = 20%	6.66 (Rejected)	6.66 (Rejected)	
b = 15%	8.96 (Rejected)	8.96 (Rejected)	
b = 10%	16.38 (Rejected)	16.38 (Not rejected)	
Montiel-Pflueger test (auto-correlated errors)			
au = 30%	12.039 (Rejected)	12.039 (Not Rejected)	
au=20%	15.062 (Rejected)	15.062 (Not Rejected)	
au=10%	23.109 (Rejected)	23.109 (Not Rejected)	
au=5%	37.418 (Rejected)	37.418 (Not Rejected)	

Panel C: Robust inference with potentially weak instruments

Null hypothesis (H_0): Post 1960 × Co	mpetition = 0		
Anderson-Rubin Test	_		
Statistic chi2(1)	5.99	4.73	
p-value (Prob > chi2)	0.0144	0.0296	

Notes: Robust standard errors in parentheses are clustered at the municipality level, *** p < 0.01, ** p < 0.05, * p < 0.1. Regressions are at the *ejido* level. Post-1960 is a dummy variable that equals 1 if the *ejido* is granted after 1960. Competition refers to political competition measured at the municipality level using the variable indicated in each column (see the notes to Appendix Table A-3 and the main text for exact definitions). The instrument used is months with droughts, measured as the number of months from 1950 to 1959 in which the monthly rainfall was strictly lower than the long-run average of each particular month, and therefore accounting for seasonality and non-expected periods of low rainfall. Distance of *ejido* from municipal headquarters refers to the population-weighted minimum Euclidean distance of the *ejido* localities from the municipal headquarters (See Appendix Figure A-3 for details). All competition measures are standardized.

Panel B tests if instruments are weak, assuming independent and identically distributed (Stock-Yogo) or auto-correlated (Montiel-Pflueger) errors. In each case, we reject the null hypothesis of weak instruments if the Kleibergen-Paap rk Wald F statistic exceeds the critical value (for a significance level of 5%). In the Stock-Yogo test, the critical value depends on a lower threshold b for the bias of the IV estimator relative to OLS's bias. In the Montiel-Pfluege test, the critical value depends on whether the asymptotic estimator bias (or Nagar bias) exceeds a fraction τ of a "worst-case" benchmark. We report critical values for conventional thresholds (implemented with the ivreg2 and weakivtest commands in Stata, respectively) for thresholds b = 10%, 15%, 20%, 25% and $\tau = 5\%$, 10%, 20%, 30%.

Table A-10: Distance from municipal headquarters and opposition vote share: Distinguishing friendly and unfriendly opposition

Dependent variable: Distance of <i>ejido</i> from municipal headquarters					
	(1)	(2)	(3)	(4)	
Post-1960 \times Vote share opposition	3.243** (1.308)				
Post-1960 \times Vote share friendly opposition		1.167** (0.525)		1.419*** (0.505)	
Post-1960 \times Vote share unfriendly opposition		,	2.919** (1.401)	3.039** (1.403)	
Municipality Fixed Effects Year of Allocation Fixed Effects	√ ✓	√ √	√ ✓	√ √	
Observations R-squared	17,059 0.579	17,059 0.576	17,059 0.578	17,059 0.579	

Test of inequality of coefficients in Column 4

 H_o : $\beta_{\text{Post-1960}} \times \text{Vote share unfriendly} \leq \beta_{\text{Post-1960}} \times \text{Vote share friendly}$ p-value H_a : $\beta_{\text{Post-1960}} \times \text{Vote share unfriendly} > \beta_{\text{Post-1960}} \times \text{Vote share friendly}$ 0.130

Notes: Robust standard errors in parentheses are clustered at the municipality level, *** p < 0.01, ** p < 0.05, * p < 0.1. Regressions are at the *ejido* level. All specifications include municipality and presidential-term fixed effects. Post-1960 is a dummy variable that equals 1 if the *ejido* is granted after 1960. All vote shares are standardized. For the classification of friendly opposition, see Section 4.1 and Appendix Table A-2.

Table A-11: Distance from municipal headquarters and political competition: Accounting for the strength of rural elites and state-specific trends

Dependent variable: Distance of <i>ejido</i> from municipal headquarters						
	(1)	(2)	(3)	(4)		
Competition measured as:	Opposition vote share		and l	of Social Political ontent		
Econometric Specification:	OLS	IV	OLS	IV		
Panel A: Strength of rural elites						
Post-1960 \times Competition	3.240** (1.276)	7.124*** (2.678)	2.291** (1.032)	9.921** (4.728)		
Post-1960 × Number of ranchos and haciendas	-0.0193*** (0.00535)	-0.0193*** (0.00581)	-0.0178*** (0.00501)	-0.0137*** (0.00527)		
Observations R-squared	17,059 0.580	17,059	17,239 0.582	17,239		
First Stage R-Squared First Stage F statistic (Kleibergen-Paap rk Wald)		0.621 38.98		0.518 9.681		
Panel B: State-specific trends						
Post-1960 \times Competition	2.750*** (0.662)	8.471*** (1.964)	1.109* (0.655)	8.676*** (3.243)		
Observations R-Squared	17,059	17,059 0.715	17,239	17,239 0.590		
First Stage R-Squared First Stage F statistic (Kleibergen-Paap rk Wald)		0.715 15.21		0.591 5.005		
Quadratic state trends Post-1960 \times State indicator	√ ✓	√ ✓	√ √	√ ✓		
Controls for all specifications: Municipality Fixed Effects Year of Allocation Fixed Effects	√ √	√ √	√ √	√ √		

Notes: Robust standard errors in parentheses are clustered at the municipality level, *** p < 0.01, ** p < 0.05, * p < 0.1. Regressions are at the *ejido* level. Post-1960 is a dummy variable that equals 1 if the *ejido* is granted after 1960. Panel A includes quadratic time trends interacted with state dummies and the interaction of each state dummy with the Post-1960 dummy. In Panel B, the number of *ranchos* and *haciendas* is the number of large landholdings, also measured at the municipality level. Competition refers to political competition measured at the municipality level using the variable indicated in each column. see the notes to Appendix Table A-3 and the main text for exact definitions. All competition measures are standardized. The IV columns instrument competition measures with the number of months with droughts during the 50s. The measure of droughts refers to the number of months from 1950 to 1959 in which the monthly rainfall was strictly lower than the long-run average of each particular month, and therefore accounting for seasonality and non-expected periods of low rainfall. The number of events reflecting social and political discontent are counted during the period 1960-1969 using references to related events in two Mexican newspapers with national coverage: *El Universal* and *Excelsior*, further details in appendix

Table A-12: Distance to municipal headquarters and political competition:

Results for different distance measures

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Baseline results, <i>ejidos</i> allocated from 1914 to 199	2, Depend	dent varia	ble: Dist	ance of <i>ej</i>	ido from 1	nunicipa	ality head		
Type of minimun distance:		Euclidean			counting ain Eleva		Tr	ough DC Roads	W
Econometric Specification	OLS	IV	RF	OLS	IV	RF	OLS	IV	RF
Panel A: Competition measured as the Vote Share of O	Opposition	ı Parties							
Post $1960 \times Competition$	3.243** (1.308)	7.077*** (2.717)		3.366** (1.425)	7.038** (2.913)		3.428** (1.454)	7.122** (3.043)	
Post 1960 \times Months with Droughts 1950-1959			2.43** (0.99)			2.41** (1.07)			2.44** (1.12)
R-Squared Observations	17,059	0.621 17,059	17,059	17,059	0.621 17,059	17,059	17,059	0.621 17,059	17,059
First Stage R-Squared First Stage F statistic (Kleibergen-Paap rk Wald)		0.621 38.99			0.621 38.99			0.621 38.99	
Panel B: Competition measured as the number of Eve	nts of Soci	al and Poli	tical Disc	content 19	60-1969				
Post $1960 \times Competition$	2.391** (1.056)	9.847** (4.728)		2.540** (1.128)	9.719* (4.975)		2.574** (1.161)	9.741* (5.106)	
Post 1960 \times Months with Droughts 1950-1959			2.08** (0.96)			2.06** (1.03)			2.06* (1.08)
R-squared Observations First Stage R-Squared First Stage F statistic (Kleibergen-Paap rk Wald)	0.581 17,239	17,239 0.517 9.518	17,239	0.547 17,239	17,239 0.517 9.518	17,239	0.548 17,239	17,239 0.517 9.518	17,239
Controls for all specifications: Municipality Fixed Effects Year of Allocation Fixed Effects	√	√	√	√ ✓	√ ✓	√	√	√	√ √

Notes: Robust standard errors in parentheses are clustered at the municipality level, *** p<0.01, **p<0.05, *p<0.1. Regressions are at the ejido level. Competition refers to political competition measured at the municipality level using the variable indicated in each panel (see the notes to Appendix Table A-3 and the main text for exact definitions). All competition measures are standardized. The measure of droughts refers to the number of months from 1950 to 1959 in which the monthly rainfall was strictly lower than the long-run average of each particular month, and therefore accounting for seasonality and non-expected periods of low rainfall. The number of events reflecting social and political discontent are counted during the period 1960-1969 using references to related events in two Mexican newspapers with national coverage. El Universal and Excelsior, further details in appendix A.1 Distance of ejido from municipal headquarters in panel A refers to the population-weighted minimum Euclidean distance of the ejido localities from the municipal headquarters (See Appendix Figure A-3 for details). The distance of ejido from municipal headquarters (See Appendix Figure A-3 for details). The distance for the municipal headquarters via DCW roads in columns 7,8 and 9 accounts for the use of roads to reach the municipal headquarters. The trace of those roads comes from the Digital Chart of the World of 1992 and the overall distance of each locality from its municipal headquarters is computed adding up two different figures. First, the Euclidean distance from the locality to the closest point in a road that leads to the municipality head, and second, the length of the segment that connects such point to the municipal headquarters following the road path (See Appendix Figure A-3 for details).

Table A-13: Land quality and political competition: Is it about appeasing the opposition?

	(1)	(2)	(3)	(4)	
Competition measured as:	Opposition vote share		Events of Social and Political Discontent		
Econometric Specification:	OLS	IV	OLS	IV	
Panel A: Dependent variable: Agric	cultural con	ıstraints (FAO)		
Post-1960 \times Competition	0.001 (0.005)	-0.038 (0.024)	0.002 (0.005)	-0.054 (0.038)	
Observations R-Squared Partial F	15,855	15,855 0.616 37.13	15,855	15,855 0.663 8.424	
Panel B: Dependent variable: Land	quality ind	lex (U.S/1	Department	of Agriculture)	
Post-1960 \times Competition	0.029 (0.050)	0.070 (0.138)	0.003 (0.036)	0.098 (0.196)	
Observations R-Squared Partial F	15,922	15,922 0.618 36.72	15,922	15,922 0.665 8.926	
Controls for all specifications: Municipality Fixed Effects Year of Allocation Fixed Effects	√ ✓	√ ✓	√ ✓	√ ✓	

Table A-14: Distance from municipal headquarters and political competition: Is it about isolating insurgents and potential opposition?

Dependent variable: Distance of ejido from municipal headquarters			
	(1)	(2)	(3)
	Competition	n measured as	
	Opposition vote share	Events of Social and Political Discontent	Reduced Form
Panel A: Social capital in 1994			
Post 1960 \times Competition	3.54**	3.03**	2.41**
	(1.54)	(1.50)	(1.03)
Post $1960 \times Social$ capital in 1994	-0.02	0.57	0.17
	(0.86)	(0.95)	(0.47)
Post 1960 \times Competition \times Social capital in 1994	-0.27	-0.54	-0.15
	(0.48)	(0.38)	(0.52)
Observations	17,059	17,239	17,298
R-squared	0.58	0.58	0.58
Panel B: Population density in 1960			
Post $1960 \times Competition$	3.54***	3.01***	1.48**
	(1.16)	(1.03)	(0.64)
Post $1960 \times Population$ density in 1960	-0.08***	-0.08***	-0.08***
	(0.01)	(0.02)	(0.02)
Post $1960 \times Competition \times Population density in 1960$	-0.02	-0.02	-0.05*
	(0.02)	(0.02)	(0.03)
Observations	17,059	17,239	17,298
R-squared	0.58	0.58	0.58
Panel C: Population in the municipal headquarters in 1960			
Post $1960 \times Competition$	2.40**	1.96*	1.99**
	(1.10)	(1.00)	(0.96)
Post 1960 \times Population in the municipality head in 1960	0.70 (0.43)	0.84* (0.44)	1.19*** (0.43)
Post 1960 \times Competition \times Population in the municipality head in 1960	0.42	-0.25	0.18
	(0.54)	(0.34)	(0.35)
Observations	17,059	17,239	17,298
R-squared	0.58	0.58	0.58
Controls for all specifications:			
Municipality Fixed Effects Year of Allocation Fixed Effects	√ ✓	√ ✓	√ √

Notes: Robust standard errors in parentheses are clustered at the municipality level, *** p<0.01, ** p<0.05, * p<0.1. Regressions are at the *ejido* level. All specifications include municipality and presidential-term fixed effects. Post-1960 is a dummy variable that equals 1 if the *ejido* is granted after 1960. Panel A analyzes heterogeneity by social capital, which is calculated as the first principal component (explaining 70% of the variance in the data) of the municipality's number of human rights organizations, popular fronts, and peasant organizations in 1994. Panel B considers heterogeneity by the municipal headquarters in 1960. Competition refers to political competition measured at the municipality level using the variable indicated in each column. We demean the measures of competition, social capital, population density and population in the municipal headquarters in 1960 so that the double interactions can be interpreted as the corresponding effects at the mean. All competition measures are standardized. Column 3 present the result of using the measure of droughts instead of the variables of competition. The measure of droughts refers to the number of months from 1950 to 1959 in which the monthly rainfall was strictly lower than the long-run average of each particular month, and therefore accounting for seasonality and non-expected periods of low rainfall.