

# Harvesting votes: The electoral effects of the Italian land reform

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  - ▶ Revolutionary governments: France (1790s), Russia (1920s), China (1940s)
  - ▶ Democracies: Italy (1950), Chile (1970), South Africa (1990s), . . .

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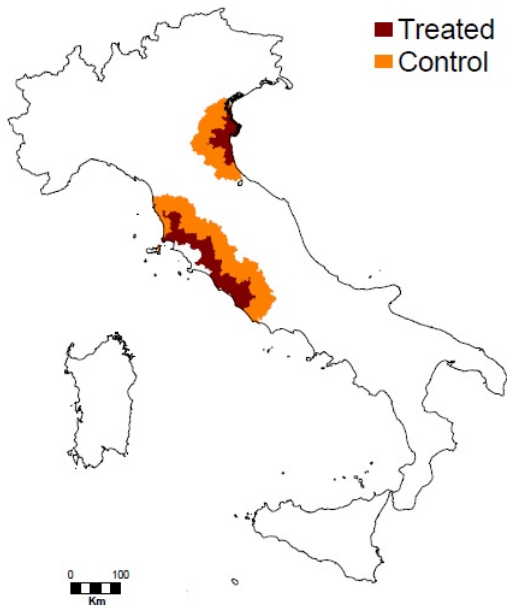
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  - ▶ Do these policies generate **political gains**?
  - ▶ Do these gains **persist**?
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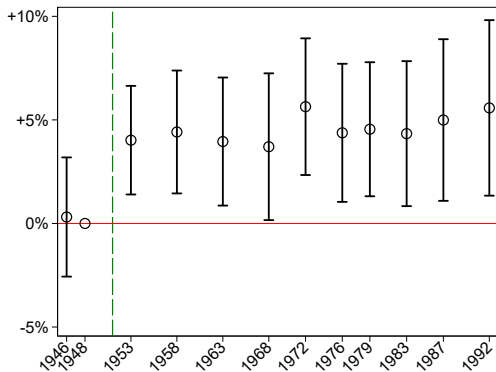
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  - ▶ Do these policies generate **political gains**?
  - ▶ Do these gains **persist**?
  - ▶ **Why**?
- ▶ We study the **Italian Land Reform** (1951)

# Identification: panel spatial-RDD



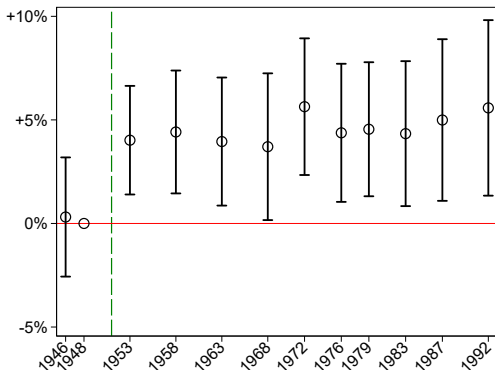
# Results in one slide

Effect of reform on **DC** vote share



# Results in one slide

## Effect of reform on **DC** vote share



- ▶ Clientelistic practices and patronage are plausible mechanisms for persistence

# Literature Review

## **1. Electoral effects of redistribution policies**

- ▶ Bechtel and Hainmueller, (2011), Manacorda et al., (2011), and Zucco Jr (2013)
- ▶ Short-term electoral effects of land reforms: de Janvry et al. (2014), Larreguy et al. (2018), Gonzalez (2013)

## **2. Land ownership and clientelistic systems**

- ▶ Baland and Robinson (2008), Anderson et al. (2015), Larreguy et al. (2018)

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- ▶ Short-term electoral effects of land reforms: de Janvry et al. (2014), Larreguy et al. (2018), Gonzalez (2013)
- ▶ Focus on persistence of electoral effects (and its end)

## 2. Land ownership and clientelistic systems

- ▶ Baland and Robinson (2008), Anderson et al. (2015), Larreguy et al. (2018)
- ▶ Land reform appears to have strengthened clientelistic brokers

# Outline

Background and empirical strategy

Electoral results over 50 years

Mechanisms

1. Gratitude
2. Clientelistic practices
3. Migration
4. Growth and development
5. Economic Conservatism

# Outline

Background and empirical strategy

Electoral results

Mechanisms



# The 1950 land reform

- ▶ Who? Christian Democrat (**DC**) government
- ▶ When? Law: 1951; Implementation: early 1950s
- ▶ Where? Large estates in each reform zone
  - ▶ Expropriation determined by size and efficiency
- ▶ Why? Redistributive and efficiency goals

▶ map

▶ table

▶ details

Plus, anti-communist goal:

*“The reform, the way in which it has been conceived and implemented has, and intends to have, an explicitly anti-communist function”*

(Rossi-Doria 1951)

# The 1950 land reform

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Plus, anti-communist goal:

*“In the reform areas, the Scudo Crociato [the DC symbol: red cross on white shield] shines while the hammer and sickle rust”*

(Fanfani 1956)

# Border manipulation: North vs South

## ► Exhibit A: proposed land reform (technical)

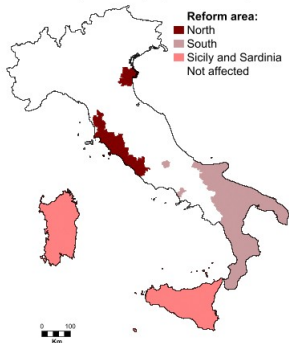
Proposed (April 1950)



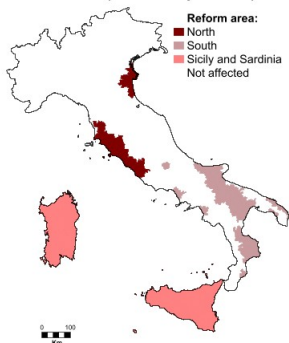
# Border manipulation: North vs South

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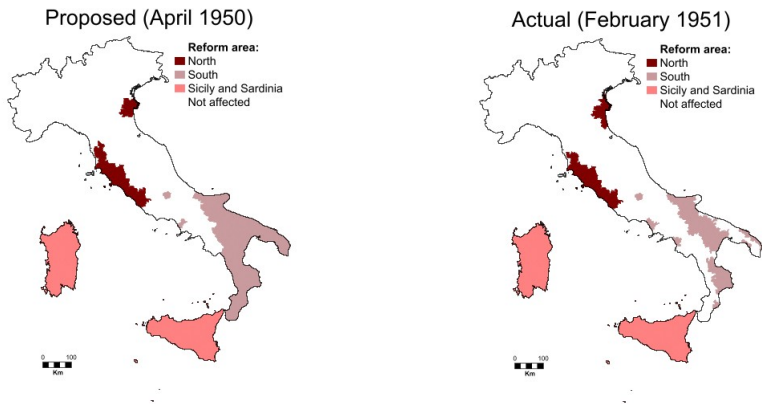


Actual (February 1951)



# Border manipulation: North vs South

## ► Exhibit A: proposed land reform (technical)



- South: land occupations, landowners' lobby (Calasso 1952; Piazza 1974)
- North: DC politicians complain to Segni for *absence* of manipulation

► Quotes

► De Gasperi

► DC Siena

► Replies

► Sample map

# Regression discontinuity

$$y_{ir} = \alpha \cdot d_i + \gamma \cdot d_i \times T_i + \beta \cdot T_i + \eta_r + u_{ir}$$

$i$ : town;  $r$ : reform area

- ▶  $T_i = 1$  if town  $i$  is in reform area
- ▶  $d_i$ : distance to reform area border

# Regression discontinuity + difference-in-differences

$$y_{irt} = \sum_t \alpha_t \cdot d_i + \sum_t \gamma_t \cdot d_i \times T_i + \sum_t \beta_t \cdot T_i + \eta_{rt} + \eta_i + u_{irt}$$

$t$ : year;  $i$ : town;  $r$ : reform area

- ▶  $T_i = 1$  if town  $i$  is in reform area
- ▶  $d_i$ : distance to reform area border
- ▶ Periods:  $t = \underbrace{1946, 1948, 1953}_{Pre}, \underbrace{1958, \dots, 1992}_{Post}$
- ▶ Bandwidths:  $d_i \in [10, 50]$  Km

# Identification assumptions

## At the border:

1. Parallel trends
  2. No contemporary differential shock
- ▶ We also show balance of observables at border (though not necessary for identification)



# Covariate balance at the border

	Preferred Bandwidth < 25 km (N=490)			Alternative Bandwidths					
	Control mean	$\beta$	[s.e.]	Control mean	$\beta$	[s.e.]	Control mean	$\beta$	[s.e.]
<b>A: Balance Land Distribution 1948</b>									
Share of Expropriable Estates 1948	0.013	0.002	[0.010]	0.014	-0.037	[0.024]	0.011	-0.010	[0.010]
<b>B: Balance Vote Shares 1946 &amp; 1948</b>									
Christian Democrats (DC) 1946	0.310	-0.025	[0.025]	0.295	-0.012	[0.040]	0.330	-0.010	[0.022]
Christian Democrats (DC) 1948	0.431	-0.028	[0.028]	0.411	0.019	[0.042]	0.454	-0.015	[0.024]
Communists (PC) 1946	0.243	0.021	[0.031]	0.259	0.002	[0.052]	0.235	0.009	[0.026]
Communists (PC) 1948	0.408	0.035	[0.034]	0.425	-0.010	[0.053]	0.387	0.019	[0.029]
<b>C: Balance Geography and Census 1951</b>									
Distance from the Coast	44.12	0.969	[2.761]	37.04	5.531	[4.282]	49.64	-4.571**	[2.269]
Distance from Rome	184.3	13.63	[13.03]	165.1	-2.344	[20.90]	226.2	10.02	[10.43]
Slope	1.530	-0.020	[0.167]	1.345	0.226	[0.236]	1.575	-0.116	[0.143]
Elevation	225.4	27.67	[30.28]	203.3	27.26	[42.02]	224.9	29.30	[24.82]
Wheat Suitability	4.432	-0.046	[0.054]	4.506	-0.009	[0.085]	4.378	-0.009	[0.043]
Maize Suitability	6.193	-0.187	[0.138]	6.107	0.026	[0.223]	6.392	-0.177	[0.112]
Malaria (1932)	0.497	0.029	[0.088]	0.529	-0.113	[0.150]	0.372	0.016	[0.072]
Log Population	8.360	-0.226	[0.161]	8.438	-0.449*	[0.240]	8.454	-0.065	[0.144]
Share Active Population	0.530	-0.009	[0.013]	0.540	-0.022	[0.018]	0.523	-0.003	[0.010]
Share Agricultural Workers	0.645	0.005	[0.034]	0.669	0.025	[0.049]	0.627	0.030	[0.027]
Share Manufacturing Workers	0.144	0.019	[0.021]	0.122	-0.013	[0.029]	0.155	-0.002	[0.016]
Share Public Sector Workers	0.052	-0.010	[0.007]	0.055	-0.011	[0.008]	0.049	-0.008	[0.005]

All regressions include reform area fixed effects.

► Additional balance

► South

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All regressions include reform area fixed effects.

# Parallel pre-trends at the border

	Preferred Bandwidth < 25 km (N=490)			Alternative Bandwidths					
	Control mean	$\beta$	[s.e]	Control mean	$\beta$	[s.e]	Control mean	$\beta$	[s.e]
<b>A: Pre-Trends Vote Shares 1948-46</b>									
Christian Democrats (DC)	0.122	-0.003	[0.015]	0.116	0.031	[0.024]	0.123	-0.005	[0.012]
Communists (PC)	0.165	0.014	[0.019]	0.166	-0.012	[0.033]	0.152	0.010	[0.016]
Socialists (PSI)	0.215	0.038	[0.028]	0.236	0.020	[0.043]	0.182	0.019	[0.023]
Social-Democrats (PSDI)	-0.145	0.001	[0.019]	-0.138	0.038	[0.032]	-0.147	0.004	[0.016]
Republicans (PRI)	-0.025	-0.010	[0.009]	-0.028	0.004	[0.020]	-0.023	-0.010	[0.008]
Liberals (PLI)	-0.013	-0.001	[0.007]	-0.009	-0.011	[0.011]	-0.013	0.004	[0.006]
<b>B: Pre-Trends Census 1951-36</b>									
Log Population	0.075	-0.021	[0.023]	0.097	-0.030	[0.030]	0.065	0.008	[0.017]
Log Workers	0.053	-0.024	[0.031]	0.081	-0.083*	[0.049]	0.038	0.012	[0.025]
Share Active Population	0.080	-0.006	[0.013]	0.083	-0.028	[0.021]	0.077	0.001	[0.010]
Share Agricultural Workers	-0.068	-0.016	[0.015]	-0.067	-0.016	[0.022]	-0.082	-0.019	[0.012]
Share Manufacturing Workers	-0.026	0.011	[0.010]	-0.025	0.003	[0.014]	-0.023	0.018**	[0.008]
Share Public Sector Workers	0.025	-0.005	[0.004]	0.028	-0.004	[0.007]	0.024	-0.002	[0.004]

All regressions include reform area fixed effects.

▶ South

# Contemporaneous policies

	Preferred Bandwidth < 25 km (N=490)			Alternative Bandwidths					
	Control mean	$\beta$	[s.e]	< 10 km (N=222)			< 50 km (N=863)		
	Control mean	$\beta$	[s.e]	Control mean	$\beta$	[s.e]	Control mean	$\beta$	[s.e]
Malaria eradication (1947-52)	0.50	0.029	[0.094]	0.53	-0.113	[0.153]	0.37	0.016	[0.074]
log Marshall Plan funds per capita (1948-52)	4.74	-0.205	[1.130]	3.75	0.092	[1.617]	5.85	0.040	[11.644]
Share of workers in GATT affected sectors (1948)	0.81	0.017	[0.020]	0.81	0.008	[0.028]	0.81	0.020	[0.016]
Piano Casa dummy (1949)	0.03	-0.038	[0.032]	0.03	-0.030	[0.047]	0.02	-0.021	[0.026]
Piano Casa houses per 10'000 inhabitants (1949)	0.99	-1.633	[1.259]	1.09	-2.096	[2.145]	0.91	-1.077	[0.991]
Cassa del Mezzogiorno dummy (1950)	0.02	0.020	[0.025]	0.00	0.000	-	0.04	-0.002	[0.029]
log firms in ECSC affected sectors (1951)	2.43	-0.179	[0.231]	2.57	-0.500	[0.361]	2.57	0.072	[0.200]
Share of workers in ECSC affected sectors (1951)	0.03	0.003	[0.017]	0.03	-0.030	[0.026]	0.03	0.013	[0.012]

All regressions include reform area fixed effects.

# Outline

Background and empirical strategy

**Electoral results**

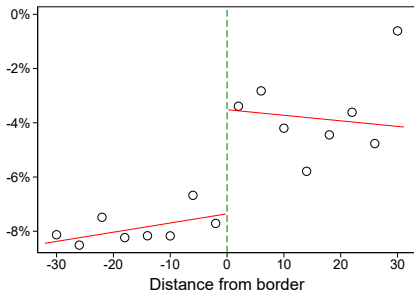
Mechanisms

Alternative explanations

# Graphical evidence

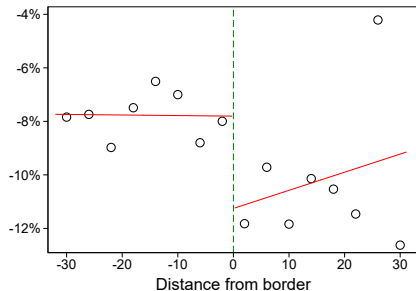
Change in vote shares **after** the reform

## Christian Democrats



Change DC votes 1946/48 to 1953/92

## Communists



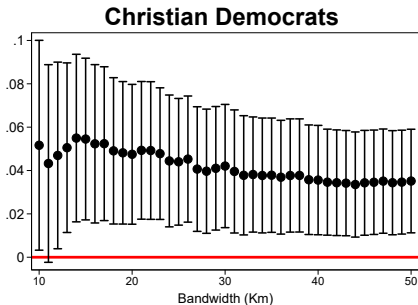
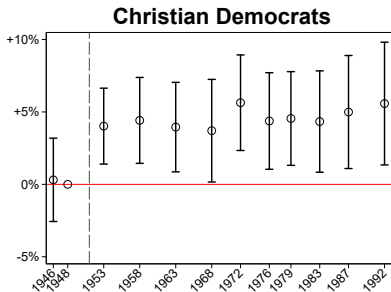
Change PCI votes 1946/48 to 1953/92

Bandwidth: 32 Km. Bins: 4 Km.

► First stage

► Pre-trends

# Effect of the reform on DC



95% confidence intervals. Standard errors clustered by town.

► PCI

► Favoritism and gratitude

► Favoritism

► Gratitude

# Voting with the Christian Democrats

Referendum to repeal divorce bill: 1974

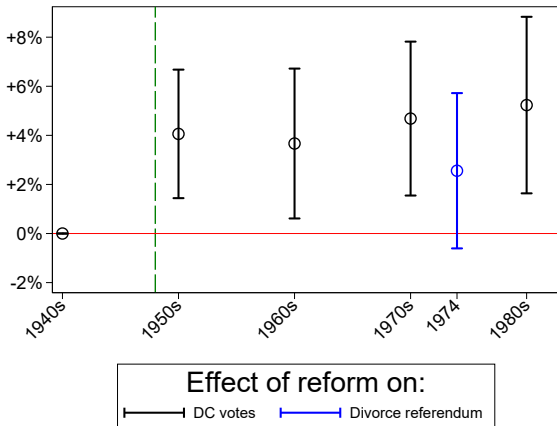


DC supports repeal of divorce law



# Voting with the Christian Democrats

## Referendum to repeal divorce bill: 1974



Sample: 25 Km from the reform border in the north. Regression includes distance inside and distance outside times decade as well as town and reform area times decade fixed effects. Standard errors clustered by town.

# Robustness

▶ Polynomial in latitude and longitude

▶ 2D polynomial

▶ Spillovers

▶ spillovers

▶ IV (April 1950 proposed reform)

▶ IV

▶ Quantifications

▶ persuasion rate

▶ Specifications

▶ bandwidth

▶ province FEs

▶ polynomial

▶ log DC share

▶ all

▶ Sample restrictions

▶ no provinces

▶ drop segments

▶ 1919-1924 elections

▶ pre-fascism

▶ Inference

▶ placebo

▶ Conley s.e.

▶ McCrary

▶ test

▶ simulations

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## Mechanisms

1. Gratitude
2. Clientelistic practices
3. Migration
4. Growth and development
5. Economic Conservatism

# Gratitude

- ▶ Plausible explanation, but gratitude may be short-lived: effects fade over time in towns where initial recipients were old

	DC vote share	
	(1)	(2)
Treatment × 1950s	0.031*** [0.011]	0.036*** [0.010]
Treatment × 1960s	0.031** [0.012]	0.040*** [0.011]
Treatment × 1970s	0.052*** [0.013]	0.060*** [0.012]
Treatment × 1980s	0.078*** [0.015]	0.090*** [0.013]
Old population in 1951 × Treatment × 1950s	0.005 [0.015]	-0.001 [0.013]
Old population in 1951 × Treatment × 1960s	0.001 [0.017]	-0.008 [0.015]
Old population in 1951 × Treatment × 1970s	-0.013 [0.018]	-0.024 [0.017]
Old population in 1951 × Treatment × 1980s	-0.040* [0.021]	-0.053*** [0.019]

# Outline

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# Land reforms and clientelism

- ▶ The land reform included elements that limited benefits for recipients:
  - ▶ Discretionary allocation of land
  - ▶ Restrictions to sales
  - ▶ **Access to inputs and health insurance** via political brokers (farmers' associations)
- ▶ **Discretionarity** and **conditionality** are well-known ingredients of clientelistic systems (Hicken, 2011)
- ▶ Political brokers may have facilitated a system of repeated exchange between voters and politicians.
  - ▶ Long-term effects compound direct effects of redistribution with the indirect effects of intermediating channels (e.g., clientelistic practices induced by the reform).

# Brokers' networks (*Coldiretti*)

- ▶ Beneficiaries had to join cooperatives: most chose *Coldiretti*
- ▶ *Coldiretti* acted as political broker for DC



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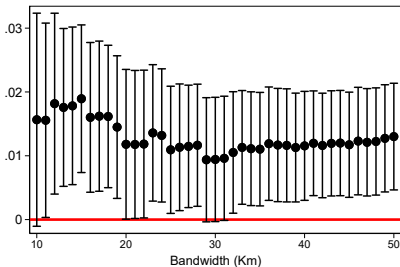
- ▶ We measure *Coldiretti* with data from *Casse Mutue*



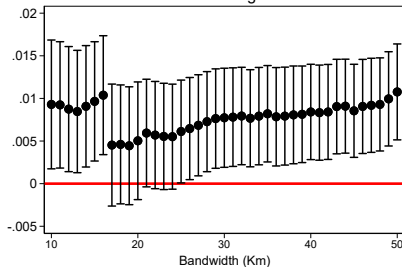
# Brokers' networks (*Coldiretti*)

## *Casse Mutue's* elections (1955-70)

*Casse Mutue*: Coldiretti votes per capita  
Distance



*Casse Mutue*: Coldiretti votes per capita  
Latitude-Longitude



- ▶ Back of the envelope: Farmers who received land through the reform were 52% more likely to support the political brokers of the land reform party than pre-existing farm owners.

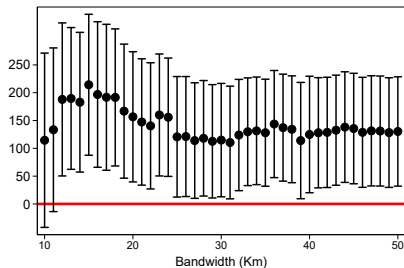
▶ Votes per capita

▶ Why not shares?

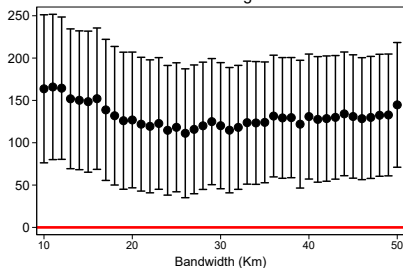
# Brokers' networks (*Coldiretti*)

## *Casse Mutue's* budget (1965) – revenues

A. *Casse Mutue*: revenues per capita  
Distance



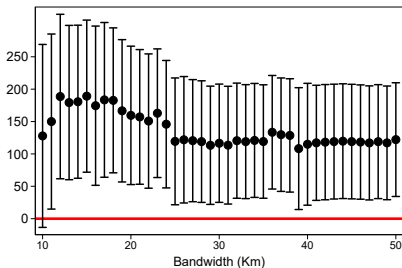
B. *Casse Mutue*: revenues per capita  
Latitude-Longitude



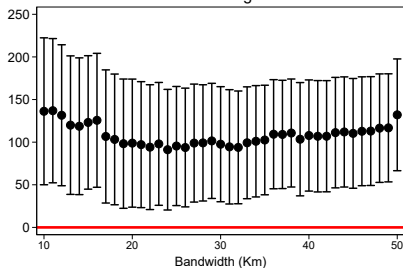
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## *Casse Mutue's* budget (1965) – expenditure

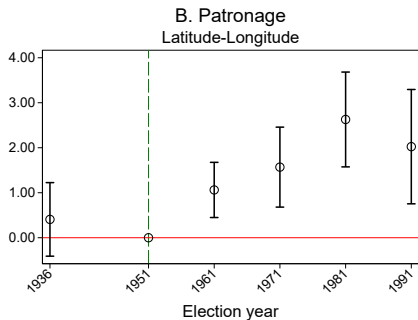
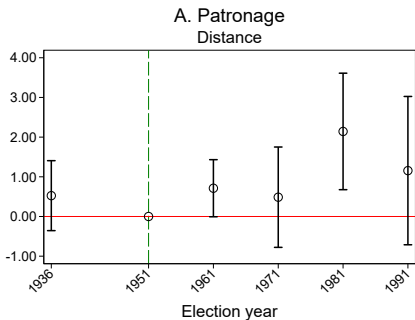
C. *Casse Mutue*: expenditure per capita  
Distance



D. *Casse Mutue*: expenditure per capita  
Latitude-Longitude



# Patronage



Sample: 25 Km from the reform border in the north. Regression include town and reform area times year fixed effects. Standard errors clustered by town.

▶ Bandwidths

Some (weak) suggestive evidence: more [▶ Pork barrel](#) in treated towns

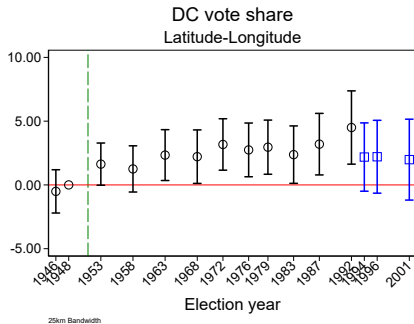
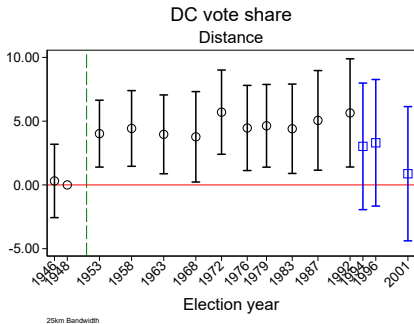
# End of exchange

- ▶ 1946-1993: DC governments rule Italy *uninterruptedly*
- ▶ 1992-1993: Major corruption scandals (“Mani Pulite”)
- ▶ 1993-1995: DC splits in many parties (Segni, PPI, CCD, CDU)
- ▶ 1994: Berlusconi’s party wins elections, DC loses access to power

⇒ from 1994 on, DC can no longer sustain political exchange

# End of exchange

## Post-1992 elections



Dependent variable is DC vote share. After 1992 DC is: PPI + Patto Segni (1994); PPI + Dini + CCD\CDU (1996); Margherita + CCD\CDU (2001). Sample: 25 Km from the reform border in the north. Regressions control for town and reform area times year fixed effects. Standard errors clustered by town.

# Outline

Background and empirical strategy

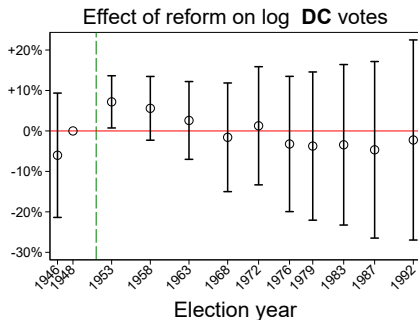
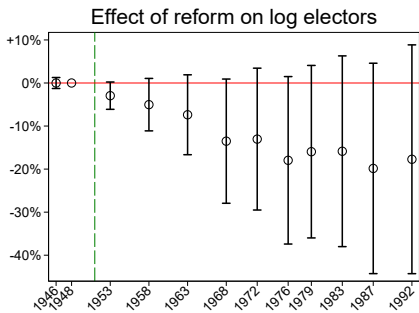
Electoral results over 50 years

## Mechanisms

1. Gratitude
2. Clientelistic practices
3. Migration
4. Growth and development
5. Economic Conservatism

# Selective migration

## Effect of reform on electors and DC votes



Overtime treated towns experience net out-migration. However:

- ▶ effect on voting is *immediate, persistent and stable*
- ▶ effect on migration grows over time
- ▶ *Absolute* number of Christian Democrats votes increases in 1953 (1958).



# Selective migration

## Effect of reform on population composition

	Share workers in		Share males	Share population aged			
	agriculture	manufacturing		0-19	20-44	45-64	>64
Treatment × 1961	-0.025 [0.019]	0.006 [0.009]	-0.001 [0.002]	-0.003 [0.004]	-0.003 [0.004]	0.003 [0.004]	0.004 [0.003]
Treatment × 1971	-0.030 [0.025]	0.005 [0.016]	-0.003 [0.002]	-0.001 [0.006]	0.002 [0.005]	0.005 [0.006]	0.005 [0.005]
Treatment × 1981	-0.011 [0.029]	-0.010 [0.020]	-0.004 [0.002]	-0.006 [0.008]	-0.005 [0.008]	0.001 [0.006]	0.010 [0.009]
Treatment × 1991	0.008 [0.032]	-0.027 [0.021]	-0.004 [0.003]	-0.002 [0.007]	-0.009 [0.009]	0.002 [0.005]	0.012 [0.010]
Treatment × 2001	0.008 [0.033]	-0.019 [0.021]	-0.004 [0.003]	-0.006 [0.007]	-0.013 [0.009]	0.003 [0.006]	0.016 [0.011]
Mean Y Control Group	0.30	0.23	0.50	0.25	0.33	0.23	0.14
Observations	2939	2939	2940	2940	2940	2940	2940

Sample: 25 Km from the reform border in the north. Regressions include distance inside and distance outside times year as well as town and reform area times year fixed effects. Standard errors clustered by town.

# Outline

Background and empirical strategy

Electoral results over 50 years

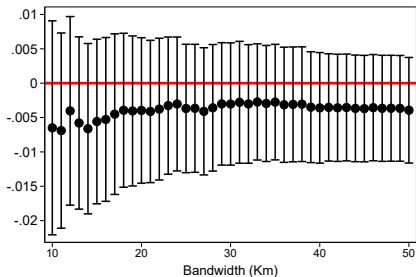
## Mechanisms

1. Gratitude
2. Clientelistic practices
3. Migration
4. Growth and development
5. Economic Conservatism

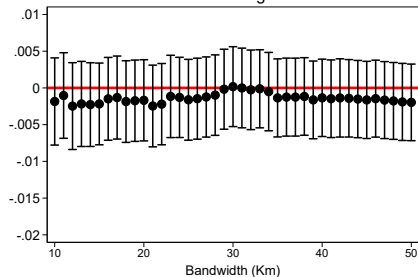
# Ownership society?

## Effect of reform on share of houses owned

C. Home-ownership  
Distance



D. Home-ownership  
Latitude-Longitude



Sample: towns in north. All regressions include town and reform area times year fixed effects.  
Standard errors clustered by town.

[▶ Back](#)

# Sectoral Employment

	Share workers in			Share population aged			
	agriculture	manufacturing	Share males	0-19	20-44	45-64	>64
Treatment × 1961	-0.025 [0.019]	0.006 [0.009]	-0.001 [0.002]	-0.003 [0.004]	-0.003 [0.004]	0.003 [0.004]	0.004 [0.003]
Treatment × 1971	-0.030 [0.025]	0.005 [0.016]	-0.003 [0.002]	-0.001 [0.006]	0.002 [0.005]	0.005 [0.006]	0.005 [0.005]
Treatment × 1981	-0.011 [0.029]	-0.010 [0.020]	-0.004 [0.002]	-0.006 [0.008]	-0.005 [0.008]	0.001 [0.006]	0.010 [0.009]
Treatment × 1991	0.008 [0.032]	-0.027 [0.021]	-0.004 [0.003]	-0.002 [0.007]	-0.009 [0.009]	0.002 [0.005]	0.012 [0.010]
Treatment × 2001	0.008 [0.033]	-0.019 [0.021]	-0.004 [0.003]	-0.006 [0.007]	-0.013 [0.009]	0.003 [0.006]	0.016 [0.011]
Mean Y Control Group	0.30	0.23	0.50	0.25	0.33	0.23	0.14
Observations	2939	2939	2940	2940	2940	2940	2940

No effect on sectoral employment, though results may depend on empirical strategies (Albertus (2023), Bianchi-Vimercati et al. (2022))

# Firms

	Distance		Latitude-Longitude	
	(1) Plants p.c.	(2) Workers/plant	(3) Plants p.c.	(4) Workers/plant
Treatment × 1961	-0.001 [0.003]	0.311 [0.245]	-0.002 [0.003]	-0.019 [0.195]
Treatment × 1971	-0.001 [0.003]	-0.056 [0.276]	-0.001 [0.004]	-0.642*** [0.248]
Treatment × 1981	0.001 [0.004]	-0.267 [0.337]	-0.002 [0.004]	-0.622** [0.270]
Treatment × 1991	-0.001 [0.004]	-0.349 [0.309]	-0.006 [0.004]	-0.717*** [0.256]
Mean Y Control Group	0.04	2.95	0.04	2.95
Number of Towns	490	490	490	490
Observations	2443	2443	2443	2443

Sample: 25 Km from the reform border in the north. All regressions include distance inside and distance outside times decade as well as town and reform area times decade fixed effects. Standard errors clustered by town.

# Outline

Background and empirical strategy

Electoral results over 50 years

## Mechanisms

1. Gratitude
2. Clientelistic practices
3. Migration
4. Growth and development
5. Economic Conservatism

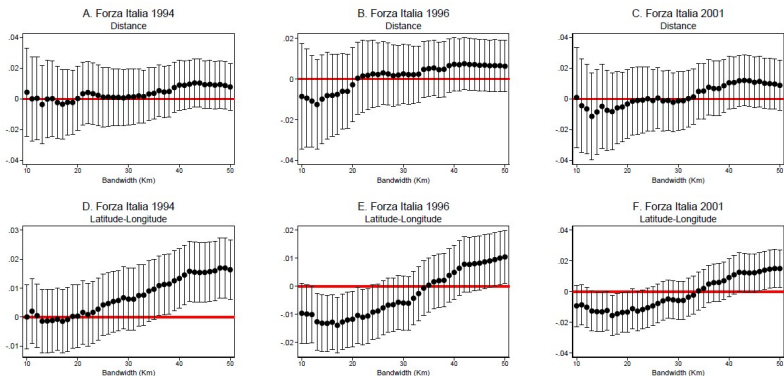
# Votes for right-wing parties after 1992

- ▶ Does the reform create a class of economically conservative small owners?

Not really

- ▶ No effect on wealth (housing)
- ▶ Effect on *Family* policies (divorce)
- ▶ No effect on other center-right parties (Berlusconi's Forza Italia) after 1992

Figure D.17: The impact of the reform on Forza Italia/center-right vote share after 1992.



# Conclusion

This paper:

- ▶ studies the electoral impact of the 1950 land reform
- ▶ finds strong and persistent impact on voting

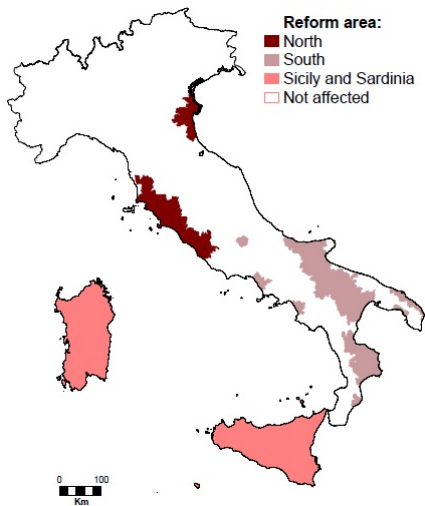
*Why?*

- ▶ strengthening of grassroots organizations
- ▶ repeated exchange DC-voters



# APPENDIX

# Reform areas



# Expropriation table

Percentuali di scorporo  
riferite agli scaglioni di reddito imponibile

SCAGLIONI DI REDDITO IMPONIBILE TOTALE		Imponibile medio per Ha.									
		Lire.									
		1000 e oltre	900	800	700	600	500	400	300	200	100 e meno
Lire											
Fino a	30.000	—	—	—	—	—	—	—	—	—	—
Da oltre	30.000 a 60.000	—	—	—	—	—	0	15	30	55	70
»	60.000 a 100.000	—	—	—	—	0	10	30	60	70	85
»	100.000 a 200.000	35	40	47	55	60	65	70	75	84	90
»	200.000 a 300.000	45	50	55	60	65	70	75	80	87	95
»	300.000 a 400.000	52	57	60	65	70	75	80	85	90	95
»	400.000 a 500.000	60	64	66	71	76	80	85	90	95	95
»	500.000 a 600.000	64	70	76	78	80	85	90	95	95	95
»	600.000 a 700.000	68	74	79	82	85	90	95	95	95	95
»	700.000 a 800.000	72	78	82	85	90	95	95	95	95	95
»	800.000 a 900.000	76	82	86	90	93	95	95	95	95	95
»	900.000 a 1.000.000	82	86	90	93	95	95	95	95	95	95
»	1.000.000 a 1.200.000	90	92	95	95	95	95	95	95	95	95
	Oltre 1.200.000	95	95	95	95	95	95	95	95	95	95

# The 1950 land reform

## What?

- ▶ Expropriation of land (completed by 1953)
  - ▶ Compensation: based on 1946 land tax value
  - ▶ Paid with 25-year government bonds, yielding 5% yearly
  
- ▶ Beneficiaries (avg. 20 for each estate)
  - ▶ Pay over 30 years, at 3.5% interest
  - ▶ Could not sell the land before redeeming it
  - ▶ Farm workers (47%), tenants (36%), small owners (9%), others (8%)
  
- ▶ Beneficiaries/requests ratio
  - ▶ North/Center: 60-70%
  - ▶ South: 25%

# Quotes on border definition

## ▶ On. De Caro on Northern Italy (1952):

“To know why they have included in the reform areas [...] lands where it was attained an admirable progress such as in the towns of Ravenna, Chioggia, Cavarzere (VE), Argentaro, Copparo, Formigiana, Porto Maggiore, Massa Fiscaglia, Iolanda di Savoia (FE), Loreo, Rosolino, Corbola, Taglio di Po, Ariano Polesine (RO) [...] and in the so-called Maremme Laziali and Toscane [...this is] against the spirit of the law.”

## ▶ On. Calasso on Southern Italy (1952):

“The law came, but Salento was excluded from the reform area. For this reason in the Fall of 1950 more than 3000 rural day laborers moved from Copertino, Nardi, Veglie, Carmiano, Salice, Montironi, etc. and came back to the lands of the Arneo.” [...] With the fight of the farmers we managed to get the inclusion [of Salento in the reform area] ”

# De Gasperi on inclusion of towns

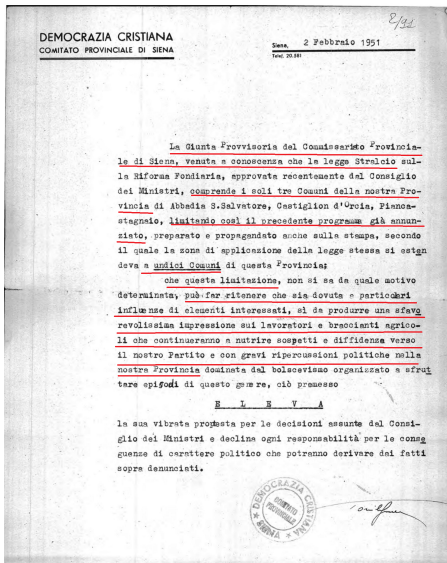
REPUBBLICA ITALIANA 2/n  
*Al Presidente  
del Consiglio dei Ministri*

Per Segni

Rodino mi dice che agri-  
cultori ribellano di segno  
contro estensione comuna-  
zioni (Cavazere  
Candolara ecc)

Comunque ho promesso  
incontro Segn. Segni  
Rodino.

# DC Siena on exclusion of towns



# Segni replies

2) MARCONIA - La delimitazione fatta - per le ricordate ragioni di ordine finanziario - è più ristretta di quel che si sarebbe dovuto largamente fare. Non si sono compresi i territori estensivi della provincia di Siena, di gran parte della campagna romana, di alcune parti di Pisa, Livorno, Latina, Frosinone, appunto per tali considerazioni.

Roma, / febbraio 1951

Carissimo Presidente,

ho avuto la lettera che mi hai inviato, letta quella inviata a Rimini, e, dal punto di vista tecnico, la risposta è qui allegata (stesa da Sandini, sentiti altri tecnici).

Non vi è dubbio che i territori di cui parla la lettera sono suscettibili di trasformazione fondiaria e agraria e ricadono nella legge; sulla zona del Delta (Coppara, Volandri di Savoia ecc.) sono ora iniziati a cura e spese dello Stato, opere pubbliche di irrigazione, che importano una trasformazione sostanziale; ancor più influente e decisiva è l'opera di appoderamento da fare, che riguarda tutti i territori del Delta inseriti nel comprensorio delimitato dal Comitato dei Ministri e anche oltre il comprensorio.

Tutto questo comprensorio è inoltre percorso dal Po di Volano e dal Po Morto di Primaro, diventate oggi canale di irrigazione, e quindi geograficamente fa parte del Delta Padano, che è anche più esteso, in quanto vi sono compresi altri comuni della provincia di Ferrara e di Rovigo, e qualche tratto della Bassa Modenese, non contenuti nel comprensorio stralciato.



# Covariate balance at the border

	Preferred Bandwidth < 25 km (N=490)			Alternative Bandwidths					
	Control mean	$\beta$	[s.e]	< 10 km (N=222)			< 50 km (N=863)		
	Control mean	$\beta$	[s.e]	Control mean	$\beta$	[s.e]	Control mean	$\beta$	[s.e]
<b>A: Share of 1948 estates worth:</b>									
> 200,000 lira	0.001	-0.000	[0.001]	0.001	-0.002	[0.002]	0.001	-0.001	[0.001]
> 100,000 lira	0.004	-0.001	[0.002]	0.004	-0.007	[0.005]	0.003	-0.003	[0.002]
> 40,000 lira	0.013	0.001	[0.006]	0.014	-0.021	[0.015]	0.011	-0.005	[0.006]
> 20,000 lira	0.028	0.002	[0.010]	0.029	-0.037	[0.024]	0.025	-0.010	[0.010]
<b>B. Balance Mayor Elections 1946</b>									
DC	0.230	-0.018	[0.105]	0.231	0.052	[0.147]	0.272	0.028	[0.085]
PCI (alone)	0.063	0.001	[0.065]	0.029	0.070	[0.103]	0.066	-0.044	[0.046]
PCI (with allies)	0.663	0.075	[0.107]	0.692	0.288**	[0.141]	0.660	0.082	[0.087]
PRI	0.063	0.005	[0.086]	0.048	0.088	[0.154]	0.064	0.045	[0.060]
<b>C. Balance Vote Shares Other Parties 1946 &amp; 1948</b>									
Socialists (PSI) 1946	0.194	-0.003	[0.019]	0.189	-0.029	[0.030]	0.205	0.000	[0.016]
Socialists (PSI) 1948	0.408	0.035	[0.034]	0.425	-0.010	[0.053]	0.387	0.019	[0.029]
Social-Democrats (PSDI) 1946	0.194	-0.003	[0.019]	0.189	-0.029	[0.030]	0.205	0.000	[0.016]
Social-Democrats (PSDI) 1948	0.049	-0.003	[0.008]	0.051	0.009	[0.015]	0.058	0.005	[0.006]
Republicans (PRI) 1946	0.066	-0.011	[0.016]	0.074	-0.034	[0.028]	0.058	-0.012	[0.013]
Republicans (PRI) 1948	0.041	-0.021*	[0.012]	0.046	-0.030*	[0.017]	0.035	-0.022**	[0.009]
Liberals (PLI) 1946	0.026	0.001	[0.007]	0.025	0.010	[0.011]	0.026	-0.004	[0.005]
Liberals (PLI) 1948	0.013	0.000	[0.005]	0.016	-0.000	[0.007]	0.013	0.000	[0.004]
Post-Fascists (MSI) 1948	0.019	-0.001	[0.003]	0.015	-0.000	[0.005]	0.016	-0.005*	[0.003]

All regressions include reform area fixed effects.

# Covariate balance at the border: South

	Preferred Bandwidth < 25km (N=1169)			Alternative Bandwidths					
	Control mean	$\beta$	[s.e]	Control mean	$\beta$	[s.e]	Control mean	$\beta$	[s.e]
<b>A: Balance Land Distribution 1948</b>									
Share of Expropriable Estates 1948	0.001	0.004***	[0.001]	0.001	0.003	[0.002]	0.001	0.003*	[0.001]
<b>B: Balance Vote Shares 1946 &amp; 1948</b>									
Christian Democrats (DC) 1946	0.350	-0.036*	[0.020]	0.329	-0.036	[0.032]	0.351	-0.036**	[0.016]
Christian Democrats (DC) 1948	0.534	-0.061***	[0.018]	0.517	-0.056*	[0.029]	0.542	-0.061***	[0.014]
Communists (PC) 1946	0.058	0.039**	[0.017]	0.064	0.040	[0.027]	0.053	0.056***	[0.014]
Communists (PC) 1948	0.169	0.073***	[0.020]	0.176	0.093***	[0.034]	0.159	0.093***	[0.017]
<b>C: Balance Geography and Census 1951</b>									
Distance from the Coast	25.71	1.085	[2.294]	24.88	-0.777	[3.450]	27.53	2.298	[1.968]
Distance from Rome	307.4	-10.49	[10.04]	335.7	9.162	[16.68]	275.9	-17.75**	[8.298]
Slope	3.121	-0.322*	[0.184]	2.673	-0.184	[0.293]	3.381	-0.385***	[0.149]
Elevation	446.2	-15.95	[36.71]	416.1	-3.596	[55.86]	482.9	4.453	[31.52]
Wheat Suitability	4.052	0.021	[0.045]	4.029	0.087	[0.066]	4.050	-0.009	[0.041]
Maize Suitability	3.669	0.088	[0.099]	3.488	0.200	[0.140]	3.846	0.033	[0.087]
Malaria (1932)	0.546	-0.000	[0.051]	0.576	0.071	[0.086]	0.508	0.016	[0.044]
Log Population	8.231	0.386***	[0.109]	8.245	0.166	[0.178]	8.161	0.393***	[0.090]
Share Active Population	0.564	-0.001	[0.013]	0.570	0.029	[0.020]	0.558	-0.010	[0.010]
Share Agricultural Workers	0.690	0.016	[0.022]	0.685	0.017	[0.035]	0.691	0.013	[0.019]
Share Manufacturing Workers	0.118	-0.029***	[0.010]	0.121	-0.030*	[0.017]	0.112	-0.034***	[0.008]
Share Public Sector Workers	0.040	0.006	[0.004]	0.039	0.008	[0.007]	0.041	0.005	[0.004]

All regressions include reform area fixed effects.

Sample: towns in Fùcino, Opera Combattenti, Puglia, Lucania and Sila.

# Parallel pre-trends at the border: South

	Preferred Bandwidth < 25 km (N=1169)			Alternative Bandwidths					
	Control mean	$\beta$	[s.e]	Control mean	$\beta$	[s.e]	Control mean	$\beta$	[s.e]
<b>A: Pre-Trends Vote Shares 1948-46</b>									
Christian Democrats (DC)	0.185	-0.024	[0.018]	0.187	-0.019	[0.030]	0.191	-0.025*	[0.015]
Communists (PC)	0.111	0.035**	[0.015]	0.112	0.053**	[0.023]	0.106	0.036***	[0.013]
<b>B: Pre-Trends Census 1951-36</b>									
Log Population	0.125	0.058***	[0.013]	0.131	0.041*	[0.022]	0.112	0.045***	[0.011]
Log Workers	0.171	0.100***	[0.026]	0.191	0.096**	[0.043]	0.138	0.072***	[0.022]
Share Active Population	0.138	0.020*	[0.011]	0.145	0.034*	[0.018]	0.126	0.010	[0.009]
Share Agricultural Workers	-0.039	0.010	[0.012]	-0.040	0.011	[0.020]	-0.054	-0.003	[0.010]
Share Manufacturing Workers	-0.051	-0.010	[0.008]	-0.055	-0.013	[0.013]	-0.043	-0.006	[0.006]
Share Public Sector Workers	0.016	0.000	[0.003]	0.014	-0.002	[0.005]	0.017	-0.002	[0.003]

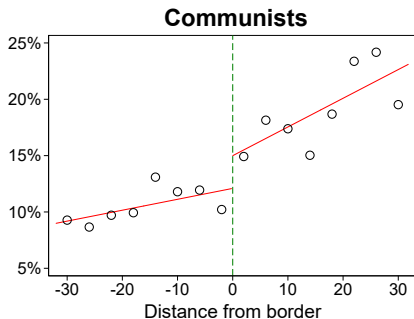
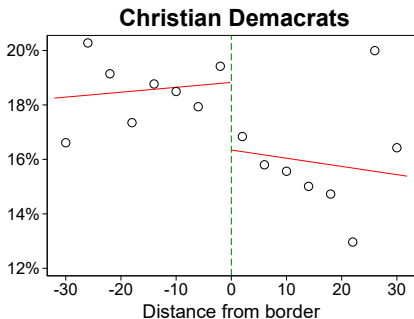
All regressions include reform area fixed effects. Bandwidth: 25 Km.

Sample: towns in Fùcino, Opera Combattenti, Puglia, Lucania and Sila.

▶ Back

# Parallel pre-trends at the border: South

## 1946-1948 changes in vote shares



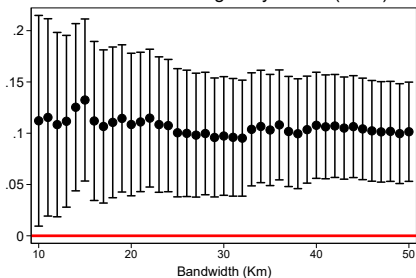
Sample: towns in Fùcino, Opera Combattenti, Puglia, Lucania and Sila.  
Bandwidth: 32 Km. Bins: 4 Km.

[▶ Back](#)

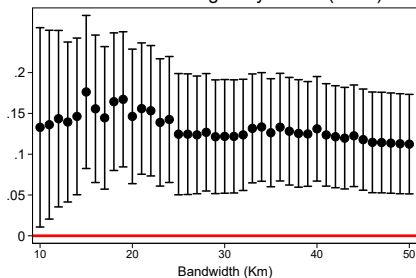
# “First Stage”

## Land ownership in 1961

Share of farms managed by owner (1961)



Share of land managed by owner (1961)



95% confidence intervals. Heteroschedasticity robust standard errors.

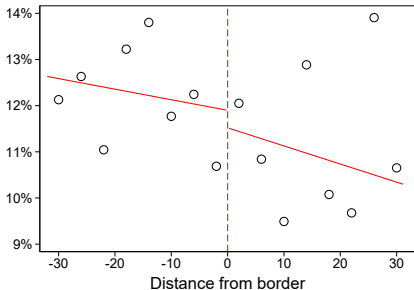
- Results are robust when controlling for baseline (1929)

► Back

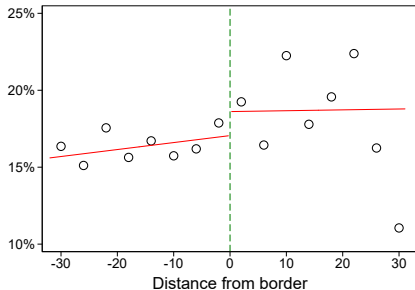
# Graphical evidence

Change in vote shares **before** the reform

### Christian Democrats



### Communists



Change DC votes 1946 to 1948

Change PCI votes 1946 to 1948

Bandwidth: 32 Km. Bins: 4 Km.

# Favoritism in land allocation

*Roma!!!* *U. n. 3.60* *Non agricolt* *B* *aziende* *loco. Edile* *M. n. n. n. n.* *7333* *23*

ENTE PER LO SVILUPPO DELL'IRRIGAZIONE  
E LA TRASFORMAZIONE FONDARIA IN PUGLIA E LUCANIA  
**SEZIONE SPECIALE PER LA RIFORMA FONDARIA**  
Via Dante Alighieri N. 40 - BARI - Via Dante Alighieri N. 40

OGGETTO: **Domanda di assegnazione di terreni.** *Luigi A. Nato*  
*di Ferrigno*

Il sottoscritto *Maurilio Maurino* di *Cosimo*  
e di *Polli Lucania* nato a *Montalbano 12* e residente  
in *Montalbano Lucania* Via *Emilio* N. \_\_\_\_\_ avendo la qualifica  
principale di (2) *Braccianti* e la secondaria di (3) *Contributo*  
così come risulta dal proprio Libretto di Lavoro N. \_\_\_\_\_ o dal tesserino personale rilasciato dall'Ufficio  
Comunale del Lavoro di \_\_\_\_\_ fa domanda per ottenere la assegnazione di una quot  
di terreno ai sensi degli articoli 16 e 17 della Legge 12 maggio 1950, n. 230 e dell'art. 21 della Legge 21 ot  
bre 1950, n. 841.

A tale scopo, presa conoscenza delle notizie contenute nella presente scheda, dichiara che esse corris  
tono a verità per cui ne assume piena responsabilità.

*Maurilio*, li *0-5-1952* ITALIA 40 NATANO FIRMA DEL RICHIEDENTE

“Si precisa altresì che è elemento turbolento e facinoroso”

“Notice also that he is a troublesome and violent individual”

► Back

# Gratitude and Reciprocity

“Amici contadini, [. . . ] lí nelle cabine [. . . elettorali] dobbiamo dimostrare la nostra riconoscenza, la nostra gratitudine, la nostra fedeltá al partito della democrazia”

“My fellow farmers, [. . . ] at the polling stations we have to show our reciprocity, our gratitude and our loyalty to [DC]”

Antonio Sorgenti (leader of land beneficiary association), 1955

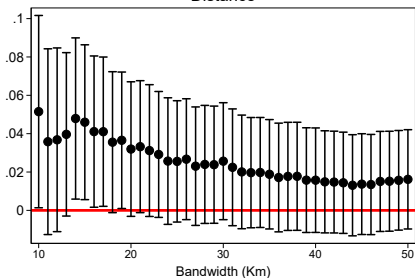
▶ Back



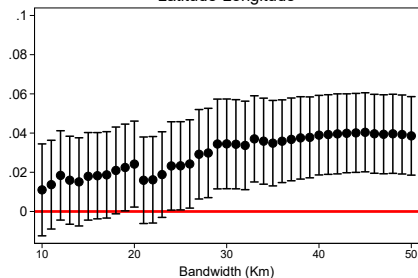
# Robustness: different bandwidths

## Referendum to repeal divorce bill: 1974

C. Divorce referendum  
Distance



D. Divorce referendum  
Latitude-Longitude



▶ Back

# Spillovers

Are treated towns *rewarding* or are control towns *punishing*?

- ▶ 10% of land goes to farmers from other towns  $\Rightarrow$  downward bias
- ▶ Potential anger in control towns  $\Rightarrow$  upward bias

No perfect answer; we propose 4 tests:

1. Test resentment using land invasions after the reform
2. Let effect depend on geographical exposure to reform
3. Let effect depend on number of potential beneficiaries
4. Exclude towns on border (“donut RD”)

# Spillovers

## Difference-in-difference with heterogeneity

$$y_{irt} = \alpha \cdot \text{Post}_t \cdot T_i + \beta \cdot \text{Post}_t \cdot T_i \times X_i + \\ + \gamma \cdot \text{Post}_t \cdot X_i + \eta_i + \eta_{rt} + u_{irt}$$

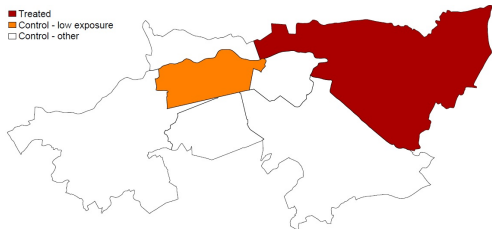
Heterogeneity ( $X_i$ ) with respect to:

1. Share of workers employed in agriculture (potential beneficiaries)
2. Share of town bordering with reform area

# Spillovers

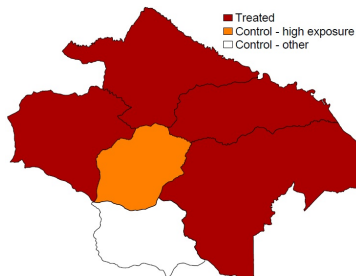
## Geographical exposure to reform: examples

### Low exposure town



Example: San Martino di Venezzes (RO)

### High exposure town



Example: Cancellara (PZ)

# Spillovers

## Difference-in-difference with heterogeneity

	Land Invasions	Christian Democrats	
	(1)	(2)	(3)
Treatment	0.097 [0.083]		
Treatment $\times$ Post		-0.004 [0.021]	0.030* [0.015]
Share agricultural workers $\times$ Post		0.021 [0.016]	
Share agricultural workers $\times$ Treatment $\times$ Post		0.051 [0.036]	
Share of town limit on reform border $\times$ Post			0.013 [0.026]
Share of town limit on reform border $\times$ Treatment $\times$ Post			-0.017 [0.050]
Mean Y Control	0.06	0.36	0.31
Number of Towns	490	482	155
Observations	490	1925	620

Sample: 25 Km from the reform border in the north. Elections: 1946-1958. Regressions include town and year  $\times$  reform area fixed effects. Standard errors clustered by town.

▶ Back

# Spillovers

## Donut RD

Christian Democrats vote share

	Distance				Latitude-Longitude			
	(1) All	(2) Donut: 1.5 km	(3) Donut: 2 km	(4) Donut: 2.5 km	(5) All	(6) Donut: 1.5 km	(7) Donut: 2 km	(8) Donut: 2.5 km
Treatment × 1950s	0.041*** [0.013]	0.033*** [0.012]	0.031*** [0.012]	0.038*** [0.013]	0.017** [0.008]	0.011 [0.008]	0.010 [0.008]	0.012 [0.008]
Treatment × 1960s	0.037** [0.016]	0.032** [0.015]	0.029** [0.015]	0.034** [0.016]	0.025** [0.010]	0.020** [0.009]	0.021** [0.009]	0.023** [0.010]
Treatment × 1970s	0.047*** [0.016]	0.046*** [0.017]	0.043*** [0.017]	0.042*** [0.018]	0.031*** [0.010]	0.029*** [0.011]	0.030*** [0.011]	0.028** [0.011]
Treatment × 1980s	0.048*** [0.018]	0.052*** [0.018]	0.050*** [0.019]	0.053*** [0.020]	0.035*** [0.012]	0.035*** [0.012]	0.037*** [0.013]	0.037*** [0.013]
Mean Y Control Group	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36
Number of Towns	490	471	461	444	490	471	461	444
Observations	5838	5615	5495	5291	5838	5615	5495	5291

▶ Back

# IV: April 1950 proposed land reform

## Reduced form

### Christian Democrats vote share

	Distance			Latitude-Longitude		
	(1)	(2)	(3)	(4)	(5)	(6)
	< 25 km	< 10 km	< 50 km	< 25 km	< 10 km	< 50 km
Treatment × 1950s	0.045*** [0.010]	0.045*** [0.015]	0.040*** [0.009]	0.023*** [0.007]	0.027*** [0.009]	0.022*** [0.006]
Treatment × 1960s	0.043*** [0.012]	0.051*** [0.016]	0.040*** [0.011]	0.034*** [0.008]	0.034*** [0.011]	0.037*** [0.008]
Treatment × 1970s	0.054*** [0.013]	0.058*** [0.016]	0.047*** [0.011]	0.043*** [0.009]	0.045*** [0.011]	0.044*** [0.008]
Treatment × 1980s	0.054*** [0.014]	0.042** [0.018]	0.056*** [0.013]	0.044*** [0.010]	0.045*** [0.013]	0.041*** [0.009]
Mean Y Control Group	0.36	0.34	0.38	0.36	0.34	0.38
Number of Towns	490	222	863	490	222	863
Observations	5818	2651	10153	5838	2651	10233

Sample: towns in north. All regressions include town and reform area times decade fixed effects. Standard errors clustered by town.

▶ Back

# IV: April 1950 proposed land reform

## Instrumental variables

### Christian Democrats vote share

	Distance			Latitude-Longitude		
	(1)	(2)	(3)	(4)	(5)	(6)
	< 25 km	< 10 km	< 50 km	< 25 km	< 10 km	< 50 km
Treatment × 1950s	0.073*** [0.019]	0.075** [0.032]	0.063*** [0.015]	0.022* [0.012]	0.039*** [0.013]	0.024** [0.010]
Treatment × 1960s	0.065*** [0.022]	0.075** [0.037]	0.063*** [0.017]	0.034** [0.014]	0.049*** [0.016]	0.042*** [0.012]
Treatment × 1970s	0.081*** [0.023]	0.081** [0.036]	0.075*** [0.019]	0.043*** [0.015]	0.063*** [0.017]	0.055*** [0.012]
Treatment × 1980s	0.084*** [0.025]	0.054 [0.039]	0.088*** [0.021]	0.036** [0.017]	0.061*** [0.021]	0.052*** [0.014]
Mean Y Control Group	0.36	0.34	0.38	0.36	0.34	0.38
Number of Towns	490	222	863	490	222	863
Observations	5818	2651	10153	5838	2651	10233
Cragg-Donald Wald F-stat	228.375	41.907	738.703	1710.686	748.321	3846.934

Sample: towns in north. All regressions include town and reform area times decade fixed effects. Treatment and distances to the January 1951 land reform are instrumented with treatment and distances to the April 1950 proposal. Standard errors clustered by town.



# Quantifications

Disclaimer: heroic assumptions.

**Elasticity** of voting to redistribution in average town:

- ▶ Electoral impact:  $+4\% \times 6500 \text{ voters} \sim +260 (+195)$  for DC
  - ▶ Net beneficiaries:  $(244 \text{ households} - 7 \text{ landowners}) \times 3 = 711$
- ⇒  $+0.37 (+0.27)$  **votes for each additional net beneficiary.**

**Persuasion Rate** (Della Vigna and Gentzkow, 2010)

- ▶ Beneficiaries voting DC of those *who would not do so otherwise*
- ▶ Persuasion rate:  $\frac{dc^T - dc^C}{b^T - b^C} \frac{1}{1 - dc^0} = \frac{0.04}{0.11} \frac{1}{1 - 0.43} = \mathbf{0.64 (0.48)}$

▶ Back

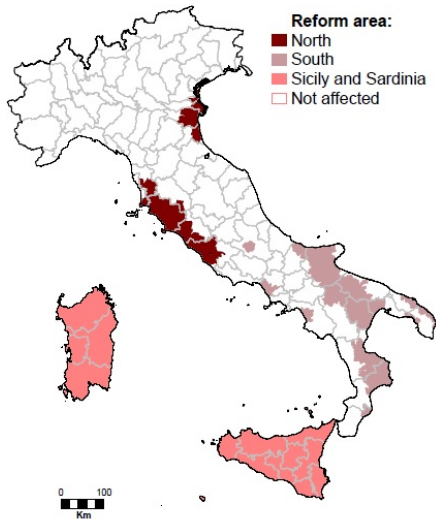
# Robustness: different bandwidths

## Effect of reform on **DC** vote share

	$\leq 25km$	$\leq 10km$	$\leq 50km$
	(1)	(2)	(3)
Treatment $\times$ 1950s	0.041*** [0.013]	0.045* [0.024]	0.031*** [0.011]
Treatment $\times$ 1960s	0.037** [0.016]	0.053* [0.027]	0.028** [0.013]
Treatment $\times$ 1970s	0.047*** [0.016]	0.061** [0.025]	0.038*** [0.013]
Treatment $\times$ 1980s	0.045** [0.018]	0.043 [0.028]	0.039*** [0.015]
Mean Y Control Group	0.36	0.34	0.39
Observations	5346	2428	9366

Sample: towns in north. All regressions include town and reform area times decade fixed effects. Standard errors clustered by town.

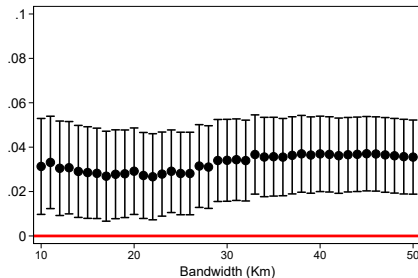
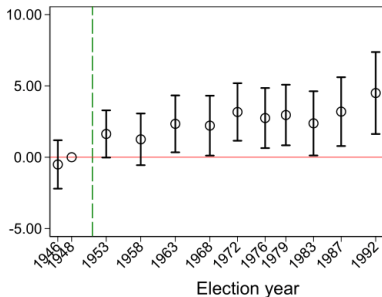
# Robustness: province fixed effects



# Robust: Multidimensional RD $f(lat, lon)$

## Effect of reform on **DC** vote share

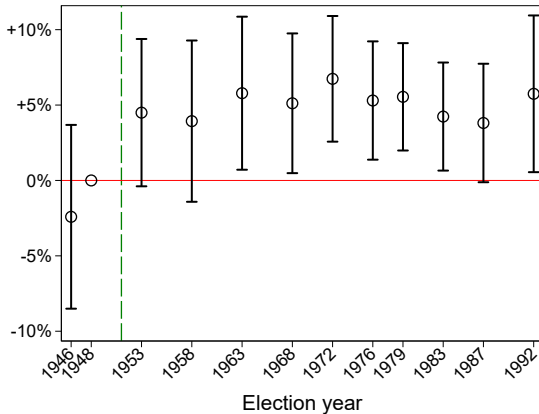
$$y_{irt} = \sum_t \beta_t T_i + \sum_t \sum_r [\alpha_{rt} \text{lat}_i + \gamma_{rt} \text{lat}_i^2 + \sigma_{rt} \text{lat}_i \times \text{lon}_i + \delta_{rt} \text{lon}_i + \theta_{rt} \text{lon}_i^2] + \eta_i + \eta_{rt} + u_{irt}$$



95% confidence intervals. Standard errors clustered by town.

# Robustness: 2<sup>nd</sup> order polynomial

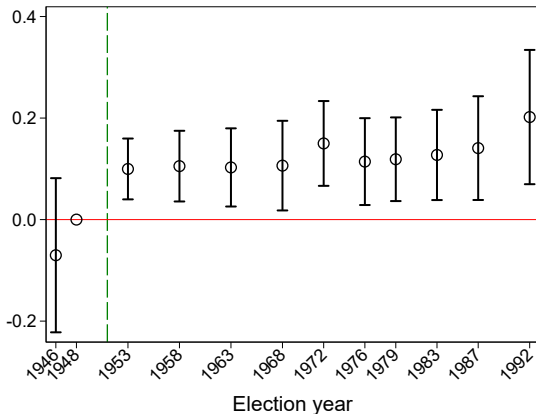
## Effect of reform on **DC** vote share



Sample: 25 Km from the reform border in the north. Regression includes 2<sup>nd</sup> order polynomial in distance interacted with election year and the treatment variable. It also includes town and reform area times year fixed effects. Standard errors clustered by town.

# Robustness: functional form

## Effect of reform on log DC vote share



Dependent variable: log share of DC votes. Sample: 25 Km from the reform border in the north. Regression includes town and reform area times year fixed effects. Standard errors clustered by town.

# Robustness: alternative specs.

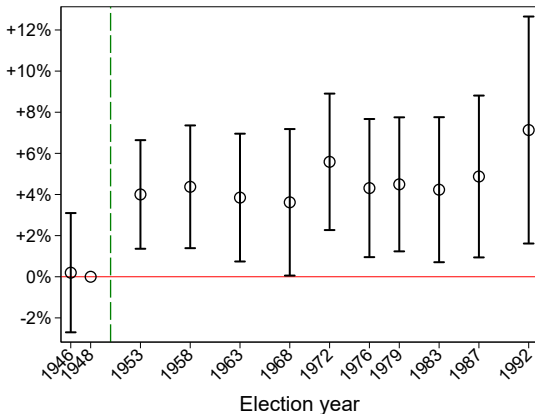
## DC vote share

	Distance						
	(1) Baseline	(2) No prov. seats	(3) Dist <sup>2</sup>	(4) Ref. area	(5) Elec. dist. FEs	(6) Segment FEs	(7) Prov. FE
Treatment × 1950s	0.041*** [0.013]	0.041*** [0.013]	0.048** [0.024]	0.042*** [0.014]	0.038*** [0.013]	0.031** [0.013]	0.033** [0.015]
Treatment × 1960s	0.037** [0.016]	0.036** [0.016]	0.061** [0.027]	0.040** [0.016]	0.039** [0.015]	0.029* [0.016]	0.036** [0.016]
Treatment × 1970s	0.047*** [0.016]	0.047*** [0.016]	0.064** [0.025]	0.051*** [0.016]	0.052*** [0.016]	0.036** [0.016]	0.046*** [0.016]
Treatment × 1980s	0.048*** [0.018]	0.048*** [0.018]	0.047* [0.028]	0.052*** [0.018]	0.051*** [0.018]	0.036** [0.018]	0.045** [0.018]
Mean Y Control Group	0.36	0.36	0.36	0.36	0.36	0.36	0.36
Observations	5838	5718	5838	5838	5838	5838	5838

	Latitude-Longitude						
	(1) Baseline	(2) No prov. seats	(3) Linear	(4) No ref. area	(5) Elec. dist. FEs	(6) Segment FEs	(7) Prov. FE
Treatment × 1950s	0.017** [0.008]	0.018** [0.008]	0.029*** [0.007]	0.020*** [0.008]	0.018** [0.008]	0.020** [0.009]	0.033** [0.015]
Treatment × 1960s	0.025** [0.010]	0.026*** [0.010]	0.039*** [0.009]	0.030*** [0.009]	0.028*** [0.010]	0.029*** [0.010]	0.036** [0.016]
Treatment × 1970s	0.031*** [0.010]	0.032*** [0.011]	0.055*** [0.009]	0.041*** [0.010]	0.036*** [0.011]	0.029** [0.011]	0.046*** [0.016]
Treatment × 1980s	0.035*** [0.012]	0.035*** [0.012]	0.067*** [0.010]	0.048*** [0.011]	0.039*** [0.013]	0.037*** [0.013]	0.045** [0.018]
Mean Y Control Group	0.36	0.36	0.36	0.36	0.36	0.36	0.36
Observations	5838	5718	5838	5838	5838	5838	5838

# Robustness: exclude provincial seats

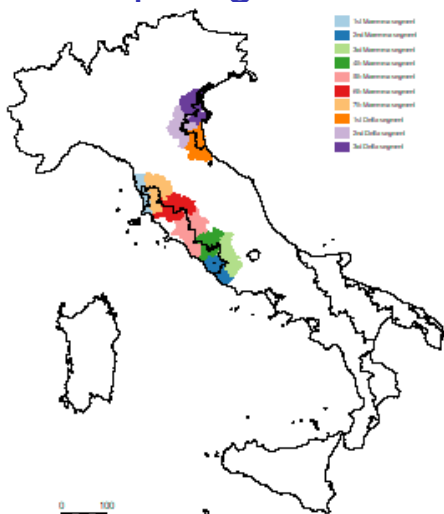
## Effect of reform on DC vote share



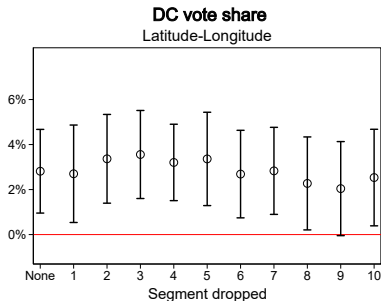
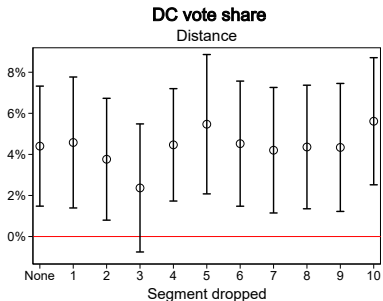
Sample: 25 Km from the reform border in the north excluding towns that are provincial seats. Regression includes town and reform area times year fixed effects. Standard errors clustered by town.



# Robustness: drop segments along border

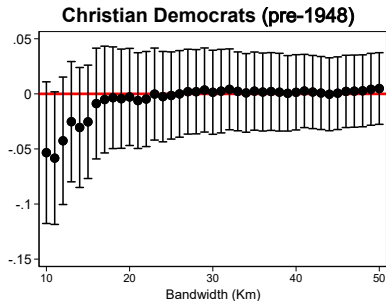
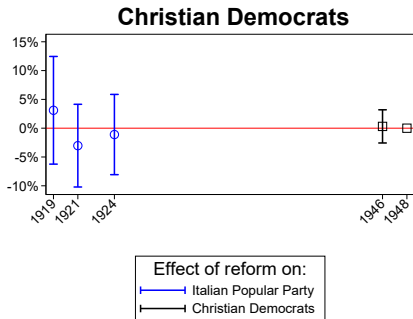


# Robustness: drop segments along border



▶ Back

# Pre-fascism elections

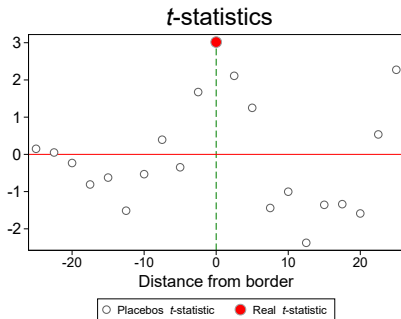
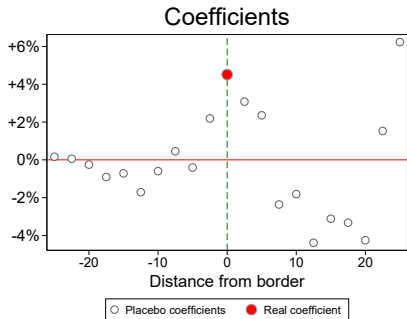


Regression includes town and reform area times year fixed effects. Standard errors clustered by town.

▶ Back

# Robustness: placebo

Exercise: re-estimate effect after moving the border



Sample: 25 Km from the reform border in the north. All regression include distance inside and distance outside times post 1950 as well as town and reform area times year fixed effects.

▶ Back

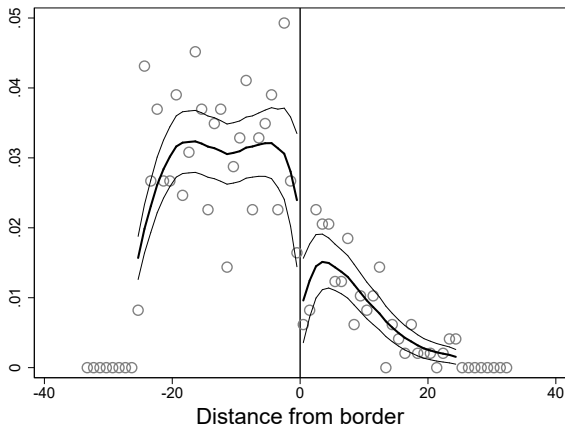
# Robustness: Conley standard errors

	DC (1)	revenues p.c. (2)	<i>Casse Mutue</i> expenditure p.c. (3)	votes p.c. (4)	<i>Coldiretti</i> votes p.c. (5)	Public Sct. Employment (6)
<b>Panel A: Distance</b>						
Treatment × Post	0.044	120.716	119.382	0.014	0.011	0.009
Cluster: town	[0.015]***	[55.278]**	[49.953]**	[0.006]**	[0.005]**	[0.005]
Conley s.e.: cutoff = 5 km	[0.015]***	[55.019]**	[50.298]**	[0.006]**	[0.005]**	[0.005]
Conley s.e.: cutoff = 10 km	[0.015]***	[55.947]**	[51.289]**	[0.006]**	[0.005]**	[0.006]
Conley s.e.: cutoff = 25 km	[0.017]***	[57.933]**	[52.866]**	[0.007]**	[0.006]**	[0.006]
Conley s.e.: cutoff = 50 km	[0.019]**	[54.394]**	[53.396]**	[0.007]**	[0.005]**	[0.007]
Conley s.e.: cutoff = 100 km	[0.021]**	[47.554]**	[50.035]**	[0.007]**	[0.005]**	[0.007]
<b>Panel B: Latitude-Longitude</b>						
Treatment × Post	0.028	118.237	95.466	0.007	0.006	0.016
Cluster: town	[0.009]***	[38.874]***	[35.648]***	[0.004]*	[0.003]**	[0.004]***
Conley s.e.: cutoff = 5 km	[0.009]***	[38.447]***	[35.645]***	[0.004]	[0.003]*	[0.004]***
Conley s.e.: cutoff = 10 km	[0.009]***	[39.504]***	[36.380]***	[0.004]	[0.003]*	[0.004]***
Conley s.e.: cutoff = 25 km	[0.008]***	[41.321]***	[38.885]**	[0.005]	[0.003]*	[0.005]***
Conley s.e.: cutoff = 50 km	[0.007]***	[41.922]***	[40.870]**	[0.005]	[0.004]	[0.006]***
Conley s.e.: cutoff = 100 km	[0.006]***	[37.453]***	[36.784]***	[0.005]	[0.004]	[0.006]**
Mean Y Control Group	0.36	437.79	316.00	0.03	0.02	0.05
Observations	5838	488	488	1451	1419	2939

► Back

# Continuity of the running variable

## McCrary test

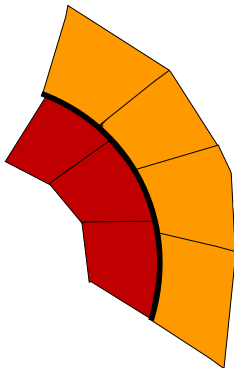


McCrary  $t$ -stat: -2.07.

*Conjecture:* jump of the density is mechanical

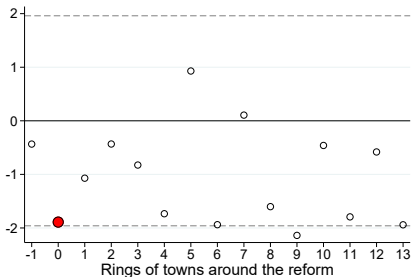
# Density test: conjecture

Jump: **mechanical effect** of “convexity” of reform areas



# Density test: simulations

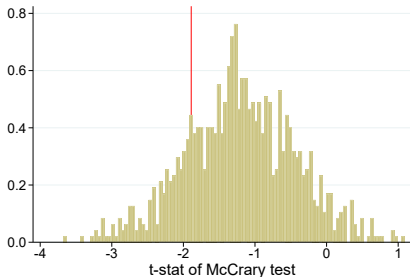
A. Placebo borders



Move border in and out by  $n$  towns.

▶ map

B. Placebo reform areas

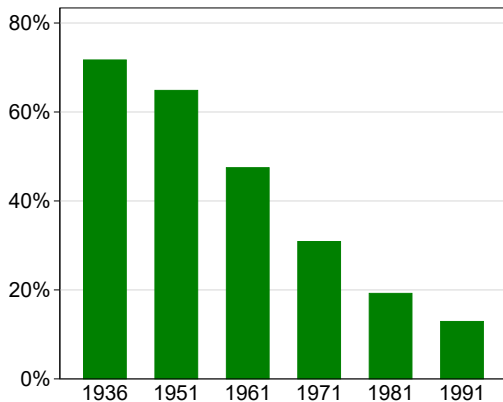


Randomly allocate reform areas  
(keeping area fixed).

▶ Back



# Agricultural labor share



▶ Back

# 1. Public transfers

Our mechanism emphasizes the role of:

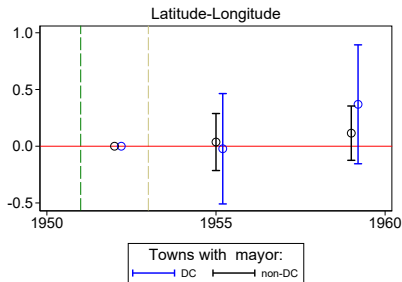
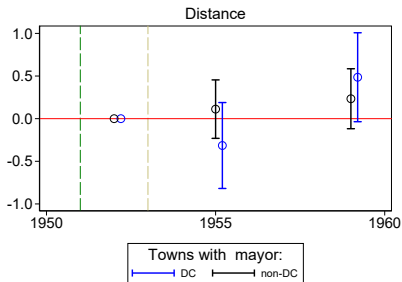
- ▶ *local Members of Parliament*
- ▶ **not** of local politicians aligned with the government  
(cf. Brollo and Nannicini 2012)

In our context:

- ▶ small towns: mayors & local officials often not aligned
- ▶ towns in our sample: many *non-DC* mayors
- ▶ Italian local MPs: known to promote their constituencies  
(Fanfani: Arezzo; Berlusconi: Molise; D'Alema: Gallipoli)

# 1. Public transfers

## Effect on transfers, by Mayor's affiliation



▶ Back

# Why not using share of votes for *Coldiretti*?

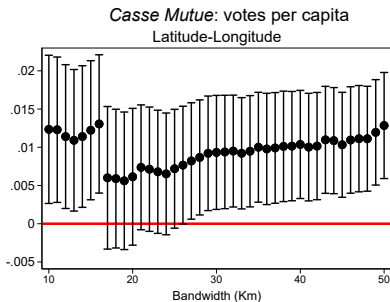
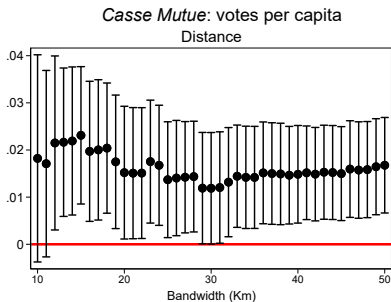
Comune di PREMILCUORE (Forlì)

	1955	1958	1961	1964	1967	1970
Electi	25	41	48	48		28
Votanti	18	32	43	38		21
Voti validi		36	43	37		22
Dolci						
Sede sola		1	-	1		
Voti Altres		-	-	-		
Percentuale Altres		-	-	-		
Voti e Bottegine	16	36	43	37		29
Percentuale e Bottegine	80	100	100	100		100%
Altri voti						
Percentuale altri voti						
Sum						

Example of *Casse Mutue* elections: town of Premilcuore (Forlì)

# 1. Brokers' networks (*Coldiretti*)

## *Casse Mutue's* elections (1955-70)

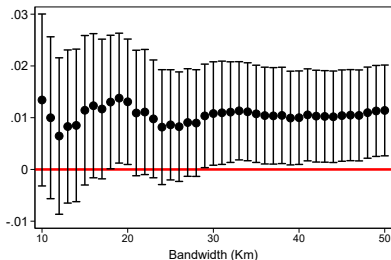


Sample: towns in north. All regressions include reform area fixed effects. Standard errors clustered by town.

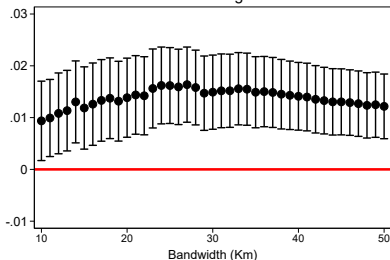
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# Patronage

C. Patronage (1961-91)  
Distance



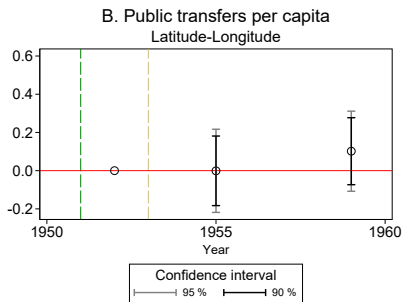
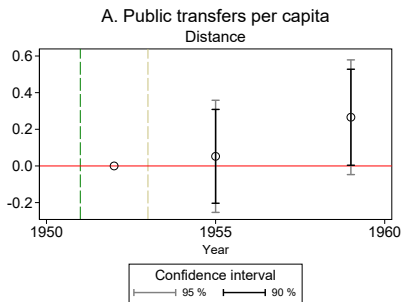
D. Patronage (1961-91)  
Latitude-Longitude



Sample: 25 Km from the reform border in the north. Regression include town and reform area times year fixed effects. Standard errors clustered by town.

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# Pork barrel

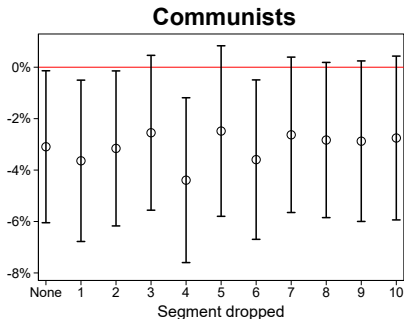
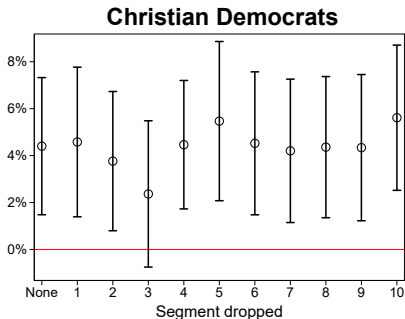


Sample: 25 Km from the reform border in the north. Regression include town and reform area times year fixed effects. Standard errors clustered by town.

► Mayors

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# Robustness: drop segments along border



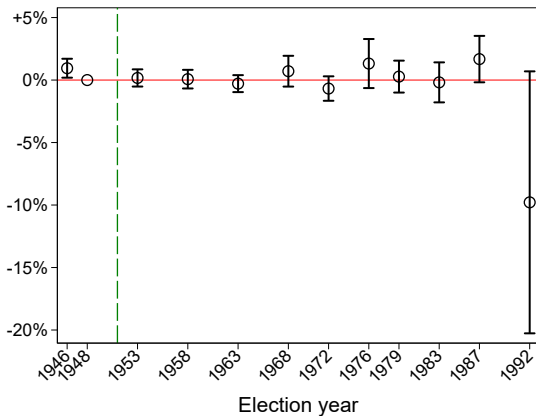
Sample: 25 Km from the reform border in the north. Regressions include town and reform area times year fixed effects. Each coefficient is estimated after dropping towns that are close to one of the 10 segments on the previous map. Standard errors clustered by town.

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# Turnout

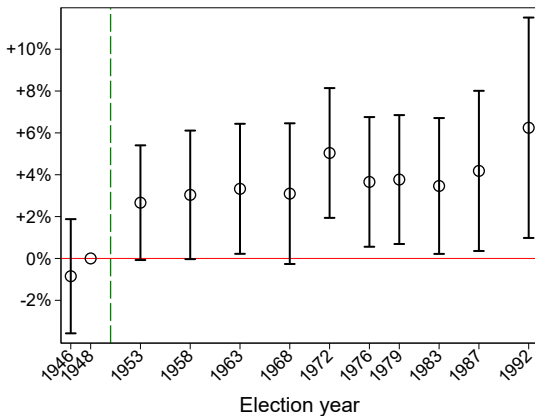
## Effect of reform on voters' turnout



Sample: 25 Km from the reform border in the north. Regressions include town and reform area times year fixed effects. Standard errors clustered by town.

# Robustness: province fixed effects

## Effect of reform on DC vote share



Sample: 25 Km from the reform border in the north. Regression includes town and *province* times year fixed effects. Standard errors clustered by town.

# Fictional reform areas around Maremma

2 rings of towns subtracted



2 rings of towns added



6 rings of towns added



10 rings of towns added



1 ring of towns subtracted



3 rings of towns added



7 rings of towns added



11 rings of towns added



Maremma



4 rings of towns added



8 rings of towns added



12 rings of towns added



1 ring of towns added



5 rings of towns added



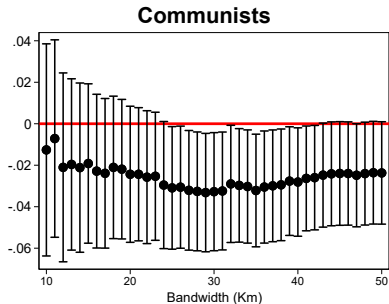
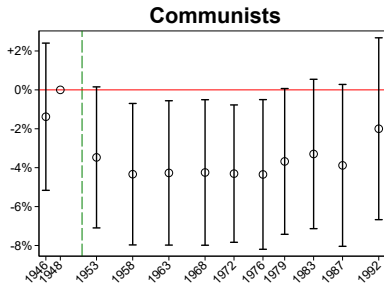
9 rings of towns added



13 rings of towns added



# Effect of the reform on PCI



95% confidence intervals. Standard errors clustered by town.

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