Università
degli Studi
di Torino

Voter Turnout and City Performance

Anna Lo Prete, Federico Revelli

Department of Economics and Statistics “Cognetti de Martiis”

EUROPEAN SUMMER SYMPOSIUM IN INTERNATIONAL MACROECONOMICS
Tarragona, Spain, 26-29 May 2015

Introduction

Low and declining voter turnout rates across the Western democracies have long been a cause of concern in public debate

- abstention as a thread to the democratic process (Lijphart, 1997), many societies encourage participation or make it mandatory

However, the premise that higher turnout is desirable and that variation in turnout might have significant policy consequences is not so firmly grounded

- in theory, voluntary voting and low turnout may increase welfare when voting is costly and instrumentally motivated and people have private values (Borgers 2004; Krasa and Polborn 2009), when private versus common value preferences (Ghosal and Lockwood 2009); in an expressive voting framework (Aldashev 2008)

Introduction

Empirical evidence is mixed: higher turnout

- helps progressive candidates, favors minorities and poorer groups, leads to more redistribution (Fowler 2013; Rauh 2014; Leon 2013); not relevant (Lutz and Marsh 2007)
- related to growth-retarding policies (Mueller and Stratmann 2003; Fumagalli and Narciso 2012)
- not relevant to electoral outcomes (Citrin et al. 2003; van der Eijk and van Egmond 2007), while information held by voters is important (Rosema 2007; Lutz 2007)

More emphasis on general elections; decentralization and growing literature about how voter turnout in local elections affects policy-making (Geys et al., 2010; Anzia, 2011, 2012; Aggeborn, 2013; Revelli, 2013; De Benedetto and De Paola 2014; Bordignon et al. 2014)

Contribution

We study the impact of exogenous variation in voter turnout rates on city performance scores and majors' valence indicators, in Italian municipal elections.

Model of voluntary and costly expressive voting where the relative weight of ideology and valence issues over voting costs determine how people vote, and circumstances (the cost of voting) determine if they turn out to vote.
Main prediction:

- cost of voting depresses turnout, yet can rise the chances of selecting the higher valence candidate and thereby improve government performance.

Empirically, we find a negative causal impact of voter turnout rates on indicators of city performance and of the valence of the major.

Outline

- Theoretical model linking voter turnout and local policy outcomes
- Data
- Econometric model and sources of exogenous variation in the cost of voting
- Empirical evidence
- Concluding remarks

Model

Two candidates (l,r) run for mayoral office in city n (n=1,...,N)

Candidates are evaluated along two dimensions: ideology and valence

How to vote: each voter j has a set of beliefs:

- "ideological" if the expressive benefit of voting by ideology is larger than the expressive benefit of voting by valence.
- "pragmatic" if the expressive benefit of voting by valence is larger than the expressive benefit of voting by ideology.

Prediction:

- turnout depends on expressive benefits of voting versus its costs
- probability to elect the most valent candidate increases in the cost of voting: the share of voters casting votes according to the correct signal increases in the cost of voting relatively to the share of those who blindly vote against it…until only ideological voters matching valence and ideological signal

Data

Municipal elections in Italian municipalities through 2000s

- staggered election schedule, two consecutive elections for each municipality over the decade (Ministry of Internal Affairs)

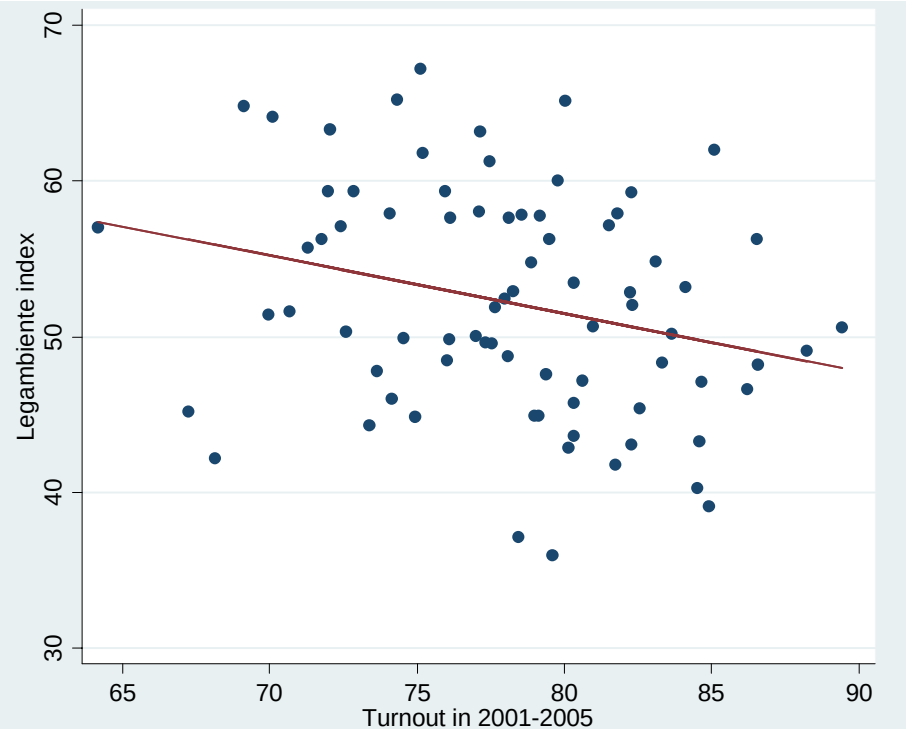
City performance:

- Comprehensive index of city environmental performance: *Legambiente* score ranges from 0 to 100 and is computed from: air & water quality, public transportation systems, energy consumption, green space availability, *waste recycling performance* (Bianchini Revelli 2013, Bordignon et al. 2014) (Ecosistema Urbano, Legambiente)

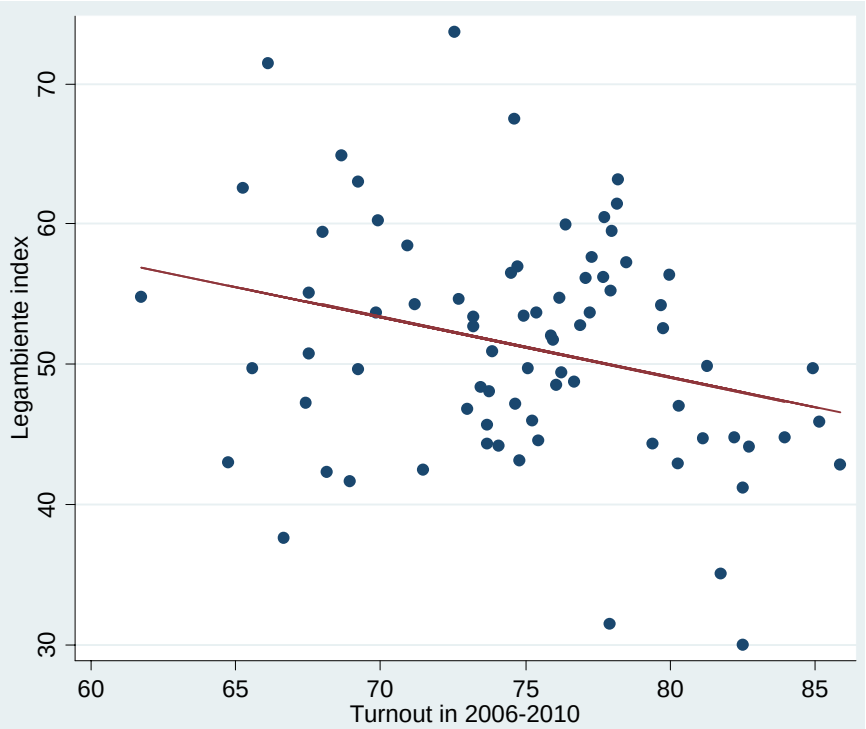
- Indicators of valence: mayors' characteristics - profession, education, age (Ministry of Internal Affairs)

Descriptive evidence

City performance indicator (main Italian cities) against voter turnout



Coeff. -0.364, robust std.err. 0.148



Coeff. -0.421, robust std.err. 0.178

Econometric strategy

Valence and turnout:

$$v_{ny} = v(t_{ny'_n}) + f_n + \varepsilon_{ny}$$

where v_{ny} = indicator of valence; $y'_n = y - \Delta y_n$ where $\Delta y_n =$ seniority,

turnout is endogenous $E(\varepsilon_{ny} | t_{ny'_n}) \neq 0$.

We use $\mathbf{c}_{ny'_n}$ as instruments for $t_{ny'_n}$ based on $E(\varepsilon_{ny} | \mathbf{c}_{ny'_n}) = 0$
and eliminate f_n by first-differencing:

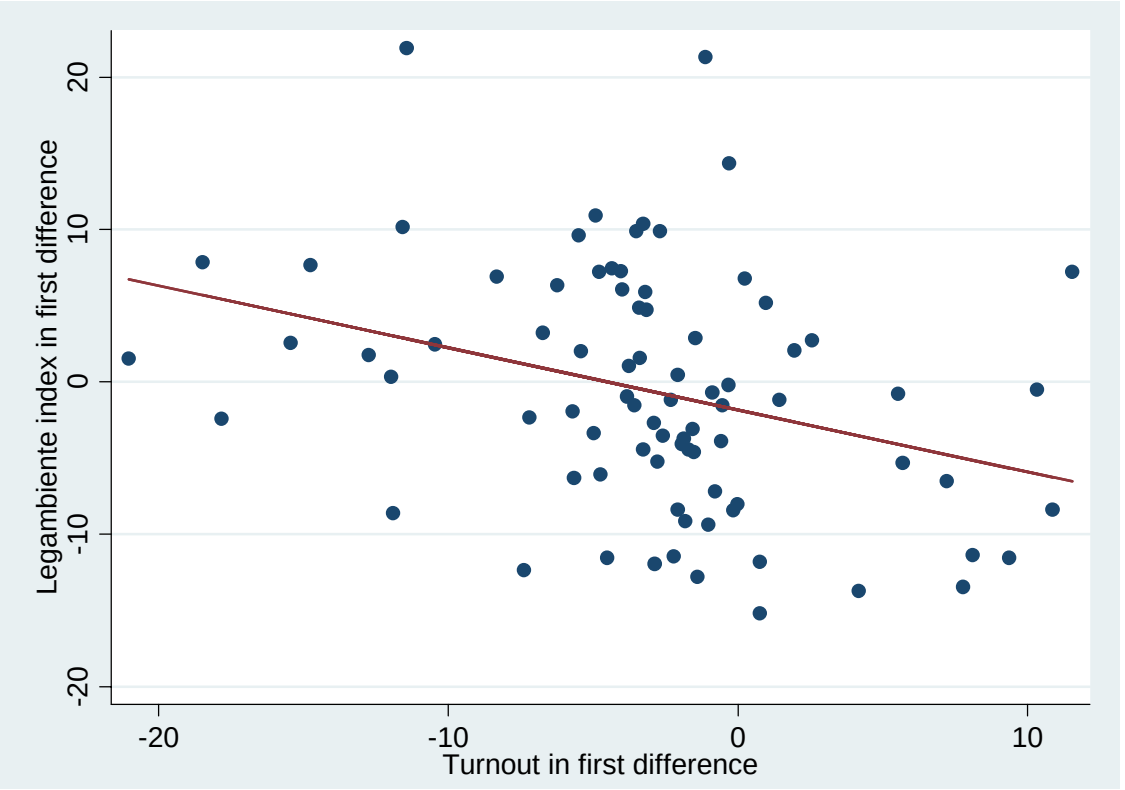
$$\Delta v_{ny} = \Delta v(t_{ny'_n}) + \Delta \varepsilon_{ny}$$

When v_{ny} is not directly observed:

$$\Delta \pi_{ny} = \Delta \pi(t_{ny'_n}) + \Delta \eta_{ny}$$

Descriptive evidence

City performance indicator (main Italian cities) against voter turnout



Data in first difference, coeff. -0.408, std.err. 0.127

Endogeneity of voter turnout

Instruments ($\mathbf{c}_{ny'n}$ = cost of voting in the model)

- Concurrent election dummies

  Turnout higher if on-cycle election in political sciences (Lijphart 1997; Hajnal and Trounstine 2005; Anzia 2011)

- Meteorological conditions (rainfall) on the election day (Archivio Meteo Italia and ARPAs)

  as a determinant of turnout (Knack 1994) and electoral outcomes (Gomez Hansford Krause 2007), different effect in different countries (Gomez Hansford 2010; Eisinga et al. 2012; Artes 2014; Persson et al. 2014, Lind 2014)

Instrumented turnout: policy outcomes in macroeconomic studies, vote shares in politics

Voter turnout and city performance

Dep. Variable	Voter turnout	Voter turnout	Voter turnout	City performance	Waste recycling
Column	(1)	(2)	(3)	(4)	(5)
	I stage	I stage	I stage	II stage	II stage
Turnout				-0.676*** (0.156)	-0.688** (0.279)
National elections	8.941*** (1.160)		8.948*** (1.186)		
European elections	0.316 (1.601)		0.317 (1.617)		
Regional elections	0.722 (1.024)		0.721 (1.036)		
Other elections	-5.738 (3.779)		-5.739 (3.799)		
Rain		3.065** (1.254)	-0.020 (0.663)		
Statistics:					
Partial R-squared	0.630	0.064	0.630		
F statistic	21.11 [0.00]	5.97 [0.02]	16.78 [0.00]		
Hansen's J statistic				4.023 [0.403]	5.226[0.265]
Weak identif. test				16.78	16.78

FD estimation. Robust standard errors in parentheses. 82 municipalities.

Robustness checks

- Sub-samples: without big cities, without autonomous regions
- Control variables at the regional level (ISTAT)
- Different timing of event: Legambiente index measured for every municipality in the same year
    - ed. 2008 data (2006-2007) for 2001-2005 elections
    - ed. 2013 data (2011-2012) for 2006-2010 elections

Voter turnout and city performance

Dependent variable:	Legambiente index			
Column:	(1)	(2)	(3)	(4)
Sample:	All	No big cities	Ordinary	All
Turnout	-0.630*** (0.160)	-0.724*** (0.181)	-0.738*** (0.158)	-0.057 (0.192)
Concentration	0.482* (0.251)	0.502* (0.278)	-0.554 (0.572)	0.293 (0.318)
Dependency	0.265 (0.613)	0.115 (0.691)	-0.329 (0.585)	-0.358 (0.525)
Unemployment	-0.371 (0.496)	-0.246 (0.531)	0.113 (0.487)	1.391*** (0.534)
Second term	0.372 (0.933)	0.392 (1.057)	-0.256 (0.863)	0.424 (0.914)
Legth of office				-1.613** (0.671)
Statistics:				
Hansen's J statistic	4.217 [0.377]	3.960 [0.411]	4.406 [0.354]	5.594 [0.232]
Weak identi. test	16.43	16.34	16.69	16.18
Nr. municipalities	82	70	75	82

FD estimation. Robust standard errors in parentheses.

Voter turnout and city performance

Dependent variable:	Waste recycling			
Column:	(1)	(2)	(3)	(4)
Sample:	All	No big cities	Ordinary	All
Turnout	-0.630 ** (0.280)	-0.763 ** (0.311)	-0.774 *** (0.299)	-0.516 * (0.285)
Concentration	0.356 (0.652)	0.215 (0.704)	-1.551 (1.155)	0.391 (0.682)
Dependency	-0.673 (1.095)	-0.708 (1.174)	-1.687 (1.085)	-3.522 *** (1.199)
Unemployment	-0.205 (1.095)	-0.356 (1.217)	0.971 (0.943)	0.199 (1.174)
Second term	2.781 * (1.628)	3.747 ** (1.863)	2.692 * (1.571)	1.058 (1.874)
Legth of office				-1.301 (1.366)
Statistics:				
Hansen's J statistic	6.504 [0.165]	4.578 [0.333]	4.558 [0.336]	2.134 [0.711]
Weak identi. test	16.43	16.34	16.69	16.18
Nr. municipalities	82	70	75	82

FD estimation. Robust standard errors in parentheses.

Indicators of valence

Dependent variable:	Education (BA)	Profession (high competence)	Profession (no entrepreneurs)
Columns:	(1)	(2)	(3)
Turnout	-0.008 (0.006)	-0.018** (0.009)	-0.019** (0.009)
Concentration	0.002 (0.004)	-0.003 (0.004)	-0.003 (0.005)
Dependency	0.041 (0.029)	0.012 (0.030)	0.019 (0.029)
Unemployment	0.009 (0.027)	-0.003 (0.031)	-0.003 (0.030)
Second term	-0.043 (0.039)	-0.033 (0.047)	0.003 (0.039)
Statistics:			
Hansen's J statistic	4.019 [0.403]	6.788 [0.148]	4.260 [0.372]
Weak identi. test	16.43	16.43	16.43

FD estimation. Robust standard errors in parentheses. 82 municipalities.

Concluding remarks

Low voter turnout generally viewed as a symptom of democratic deficit and biased policy choices.

We have tested a model of voluntary and costly expressive voting on Italian municipalities' election data, where we have exploited exogenous variation in voter turnout rates through the 2000s arising from two distinct sources:

- the presence of recurrent overlapping election cycles;
- the turnout effect of weather conditions on the election day.

The results consistently point to a negative causal impact of voter turnout rates on the performance of cities and on mayors' valence indicators, and suggest that a switch from low to high voter turnout might not always be beneficial.

Descriptive statistics

Variable	Observations	mean	std. dev.	min	max
Voter turnout	164	76.58	5.39	61.75	89.43
Legambiente index, 2 years after	164	51.57	7.66	29.98	73.71
Legambiente index, in 2008 and 2013	164	51.40	8.83	25.40	74.63
Waste recycling, 2 years after	164	31.92	16.10	1.00	72.10
Waste recycling, in 2008 and 2013	164	36.29	17.38	3.70	79.00
Concentration index, regional	164	46.43	25.38	22.67	121.40
Dependecy ratio, regional	164	51.50	3.58	42.50	61.60
Unemployment rate, regional	164	6.55	3.43	2.54	17.57
Second term	164	0.33	0.47	0	1
Length of office	164	3.15	1.35	1	5
Education, BA degree	164	0.77	0.42	0	1
Profession, high competence	164	0.20	0.40	0	1
Profession, less entrepreneurs	164	0.14	0.35	0	1
Profession, plus retired	164	0.24	0.43	0	1