Political Economics
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Topic 1

Content:

✓Preference Aggregation & Voting Rules
✓Electoral Systems in Comparative Perspective
✓Empirical Evidence: Cross-Country
✓Empirical Evidence: Within Italy

Our goals

Study the impact of different POLITICAL INSTITUTIONS on ECONOMIC POLICY
- ✓ Electoral rules, accountability, and political regimes
- ✓ Economic policy, corruption

Study the CHANNELS of these effects
- ✓ Politicians' incentives vs. politicians' selection

Methodological tools

- How are individual preferences over economic policy aggregated in actual economic policy?

    → POLITICAL INSTITUTIONS
    (e.g., electoral rules)

If political institutions were <u>neutral</u>:

➢ No effect on economic policy
➢ Different economic policy explained *only* by economic, demographic, sociological differences
➢ But political institutions are not neutral...

✓ **<u>A simple example</u>** (voting instability)

Voter 1: a > b > c

Voter 2: c > a > b

Voter 3: b > c > a

Pairwise majority voting:

- a beats b

- b beats c

- c beats a

Houston, we have a problem:

Even if individual prefs are *transitive*, collective prefs are not. Majority rule gives raise to voting cycles (**Condorcet Paradox**)

Arrow's Impossibility Theorem

Arrow (1951) showed that there is <u>no democratic</u> mechanism which allows individual preferences to be aggregated in a *consistent* way, so as to satisfy the following properties:

(1) **Independence of irrelevant alternatives**

(2) **Pareto criterion** (unanimity)

(3) **Unrestricted domain** (of preferences)

(4) **Transitivity**

→ *In Political Economics, we usually drop property (3)*

→ *"Will of the people" not so easy to define*

Example of non-neutrality in elections

- Consider an example with:
  - 7 voters (1, 2, 3, …, 7)
  - and 4 alternative policies (A, B, C, D)

- Analyze 3 types of elections:
  - PLURALITY voting
  - VOTING on pair-wise comparisons and AGENDA setting
  - "BORDA" voting

Agents	1	2	3	4	5	6	7
best	A	A	A	B	B	C	C
	B	B	B	C	C	D	D
	C	C	C	A	D	A	A
worst	D	D	D	D	A	B	B

Alternatives
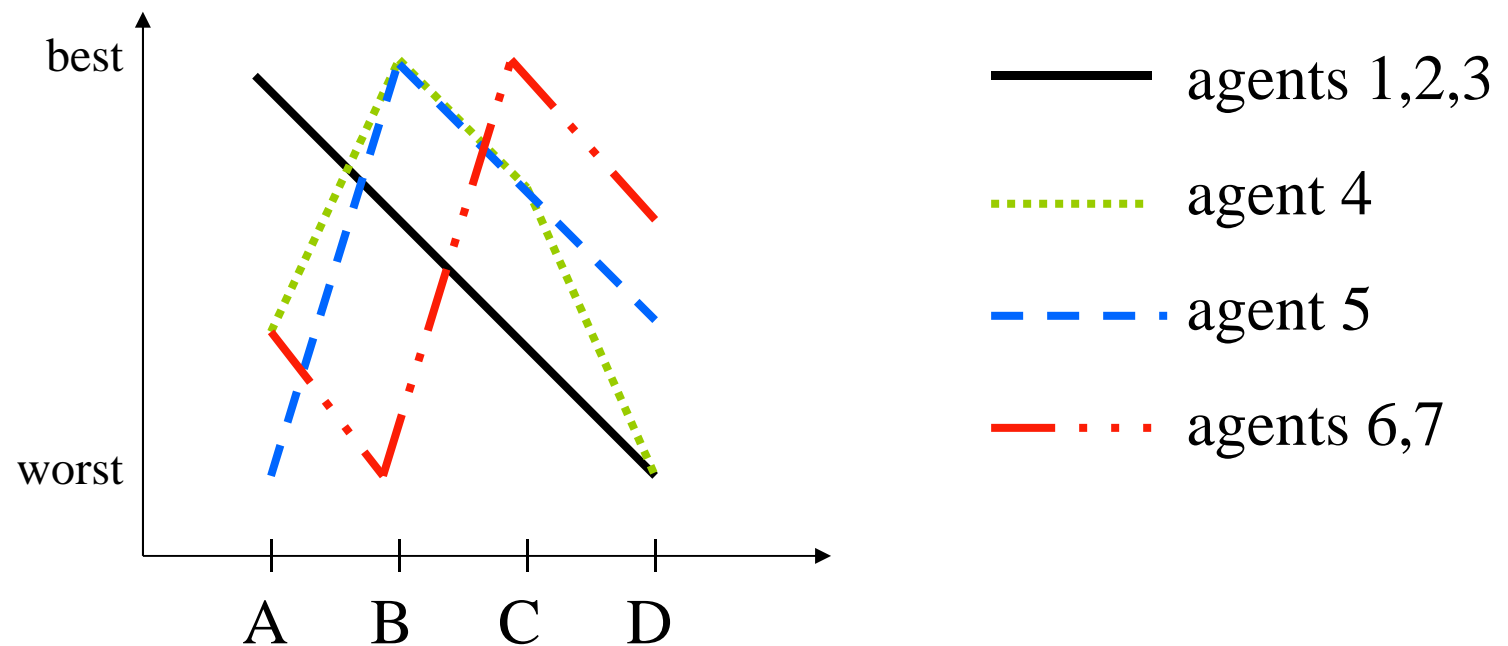
Pairwise majority voting between two alternatives:

➢ AGENDA I   a vs b -- vs c -- vs d   ➡   **C wins**

➢ AGENDA II   d vs c -- vs b -- vs a   ➡   **A wins**

➢AGENDA III   a vs c -- vs b -- vs d   ➡   **B wins**

Individual preferences are not SINGLE-PEAKED

best

worst

A   B   C   D

——— agents 1,2,3

········ agent 4

- - - agent 5

—·—·— agents 6,7

The preferences of agents 6 and 7 have two (local) peaks

What's the matter with voting?

- In the previous example, there is no Condorcet winner (i.e., no clear winner from pair-wise voting with majority rule)

- Transitivity is not satisfied, because A beats B, C beats A, BUT… B beats C

- As a result, voting cycles arise from the majority rule

Ban the weirdo (but who's really so?)

- However, if we restrict the <u>domain</u> of individual preferences by banning voters 6 and 7 (whose preferences are not single-peaked) → majority rule works (Black 1948)

- With only voters 1 through 5:
  - A beats B
  - B beats C   ➡   A is the <u>Condorcet winner</u>
  - A beats C

- Are single-peaked preferences plausible?
  - Public healthcare provision
  - Vietnam war

Agenda manipulation and strategic voting

Voter 1: a > b > c
Voter 2: c > a > b
Voter 3: b > c > a

If agenda setter prefers a: b vs. c & then b vs. a
If agenda setter prefers b: a vs. c & then c vs. b
If agenda setter prefers c: a vs. b & then a vs. c

But voters might anticipate this and vote strategically

Example: a vs. b then either a vs. c (c wins) or b vs. c (b wins). Voter 1 and voter 3 vote for b (1 misrepresents his prefs) and voter 2 votes for a (b wins). On the contrary, with sincere voting, c wins.

Alternative voting rules

✓ Scoring rule methods:
- Plurality
- Runoff
- Borda voting

✓ They help to pick a winner (see following examples) but:
- Plurality and runoff may fail to pick Condorcet winner
- Borda voting violates independence of irrelevant alternatives

Agents	1	2	3	4	5	6	7
best	A	A	A	B	B	C	C
	B	B	B	C	C	D	D
	C	C	C	A	D	A	A
worst	D	D	D	D	A	B	B

Alternatives

1) PLURALITY voting:

A = 3 votes

B = 2 votes ⟹ **A wins**

C = 2 votes

2) RUNOFF voting:

Assume: second round between A and B (coin toss) → **A wins**

Assume: second round between A and C (coin toss) → **C wins**

Agents	1	2	3	4	5	6	7
best	A	A	A	B	B	C	C
	B	B	B	C	C	D	D
	C	C	C	A	D	A	A
worst	D	D	D	D	A	B	B

Alternatives

3) BORDA voting:

(k = 1): 1 vote to the first → $\left(\begin{array}{c} \textbf{PLURALITY} \\ \textbf{VOTING} \end{array} \right)$ → __A wins__

(k = 2): 2 votes to the first,
1 vote to the second →
$\begin{cases} A = 6 \text{ votes} \\ B = 7 \text{ votes} \\ C = 6 \text{ votes} \\ D = 2 \text{ votes} \end{cases}$ → __B wins__

Two (more) paradoxes

→ Payoff from voting (v=1): p(v)B(v)-C(v)

But if p'(v)=0 and B fixed, irrational to vote (*paradox of voting*)

And p'(v) likely to be zero with many voters and low competition

B needs not to be fixed for people to vote

→ The *"Alabama" paradox* on the apportionment of seats

Parties: Left 45%, Right 41%, Center 14%

Parliament of 25 seats: Left 11, Right 10, Center 4

Parliament of 26 seats: Left 12, Right 11, Center 3

Because of the rule of the "largest fractional part" the centrist party ends up losing 1 seat in larger Parliament

Electoral Systems: Definitions

- Electoral systems translate vote shares into seats (for parties) or elected officials (for candidates)

- Main dimensions:
    1. Electoral formula (e.g., proportional vs. majoritarian)
    2. District magnitude (i.e., number of seats)
    3. Electoral threshold (e.g., explicit vs. implicit)
    4. Ballot structure (e.g., party vs. individual)

- They are usually clustered according to prototypical electoral systems

Electoral Formula

- Majoritarian systems:
  - Plurality rule (e.g., US & UK)
  - Majority rule with runoff (e.g., French President)
  - Mixed majority/plurality (e.g., runoff for French Parliament or Australian alternative vote)

- Proportional systems:
  - List proportional representation (e.g., Spain)
  - Mixed-member proportional (e.g., Germany)
  - [Mathematical formula is important: d'Hondt, Hare, etc.]

- Mixed systems:
  - Italy 1994-2006: 75% majoritarian, 25% proportional

District Magnitude & Electoral Threshold

- Plurality and majority rules are usually associated with single-member districts (exception: Mauritius)
  - ✓ If not, even greater disproportionality

- It varies greatly under proportional representation: e.g., 6.7 average in Spain; nationwide districts in Israel & Netherlands
  - ✓ Smaller magnitude implies larger disproportionality

- Implicit threshold: T=75% / (M+1)

- But threshold can be explicit (e.g., 5% in Germany)

Ballot Structure & Other Characteristics

- Party lists vs. individual ballot

- Closed-list vs. open-list proportional representation

- Districting is relevant too:
  - ✓ Gerrymandering
  - ✓ Malapportionment

- Size of legislative body is relevant too:
  - ✓ Alabama paradox

Effects of Electoral Rules on Party System

- Duverger's "laws": plurality favors two-party system
  - ✓ Mechanical effect (implicit threshold)
  - ✓ Psychological effect (strategic voting + political selection)

- But all electoral systems are disproportional (devil is in the details…)

- Sartori's "laws":
  - ✓ Only if party system is "strong" and voters geographical dispersion is low, plurality favors two-party system
  - ✓ Disproportionality reduces number of parties
  - ✓ Strong party system is resilient to electoral reform

Effects of Electoral Rules on Economic Policy

- Electoral rules are also crucial in shaping economic policy

- Broader programs with proportional rule and larger districts, targeted programs with single-member plurality

- Government size smaller with majoritarian (some models)

- Ambiguous effects on corruption (both ways theoretically)

- We now look at empirical tests:
  - ✓ Macro (cross-country)
  - ✓ Micro (within country)

Theory (1): who is the target?

- Persson and Tabellini (1999) predict that MS produces more targeted redistribution, at the expense of public good provision, as politicians compete for swing districts only.

- Lizzeri and Persico (2001) predict that MS is associated with less public goods, as multiple-district elections lower the size of the minimum winning coalition that can be built with targeted redistribution.

- Milesi-Ferretti, Perotti, and Rostagno (2002) predict that policies are targeted to social categories in PS and to local areas in MS, as voters anticipate the distributional conflict within the government.

Hypothesis 1 (H1): *Politicians elected in MS carry out more geographically targeted policies than politicians elected in PS.*

Theory (2): politicians' rent extraction

- Persson and Tabellini (1999) predict that MS produces lower rents than PS, as competition is stiffer in swing districts.

- Persson and Tabellini (2000) use a career-concern model to show that PS-type party ballot produces larger rent extraction by politicians.

- Myerson (1993) claims that PS, which is associated with larger district size, lowers barriers to entry and, as a result, politicians' rents.

Hypothesis 2 (H2): *If the accountability effect dominates the entry-barrier effect, politicians elected in MS extract lower rents than politicians elected in PS.*

Macro tests

Above predictions have been tested using cross-country data.

- Persson and Tabellini (2003) use OLS, matching, fixed-effect, and IV, finding a negative effect of MS on welfare state spending and perceived corruption.

- Milesi-Ferretti, Perotti, and Rostagno (2002) use OLS and panel models, finding a positive association between PS and social transfers in OECD.

This approach comes with two drawbacks:

- classification of MS/PR and different public expenditures;

- difficulty in finding a credible source of exogenous variation.

Furthermore, consider the chain of causation:

$$[\mathbf{1}] \text{ electoral rule} \Rightarrow [\mathbf{2}] \text{ political incentives} \Rightarrow [\mathbf{3}] \text{ macro outcomes}$$

Previous studies only detect the association between $[\mathbf{1}]$ and $[\mathbf{3}]$.

Measures of Economic Policy
Used in Macro Tests

Economic Policy:

    – *Targeted redistribution* (examples: local public goods, transfers to specific regions or to geographically concentrated individuals)

    – *Provision of national public good or general transfer programs* (examples: administration of justice, police, army, social security)

    – *Corruption or party financing or inefficiency*

Empirical Evidence at Cross-Country Level

➢ **Government expenditure:**
  ✓ Countries with <u>majoritarian</u> elections have on average lower expenditure: 5% of GDP
  ✓ Countries with <u>presidential</u> regimes have on average lower expenditure: 5% of GDP

➢ **Government expenditure composition:**
  ✓ Countries with <u>majoritarian</u> elections have on average lower transfers: 1-2% of GDP
  ✓ Countries with <u>parliamentary</u> regimes have on average higher social security expenditure

Empirical Evidence at Cross-Country Level (contd.)

➢ **Corruption:**
  ✓ Countries with <u>proportional</u> elections have on average more corruption
  ✓ No difference between countries with <u>presidential</u> or <u>parliamentary</u> regimes

➢ **Growth promoting economic policies:**
  ✓ No difference between countries with <u>majoritarian</u> or <u>proportional</u> elections

Political institutions 1998

| MAJ=1 PRES=1 | MAJ=0 PRES=1 | MAJ=1 PRES=0 | MAJ=0 PRES=0 |
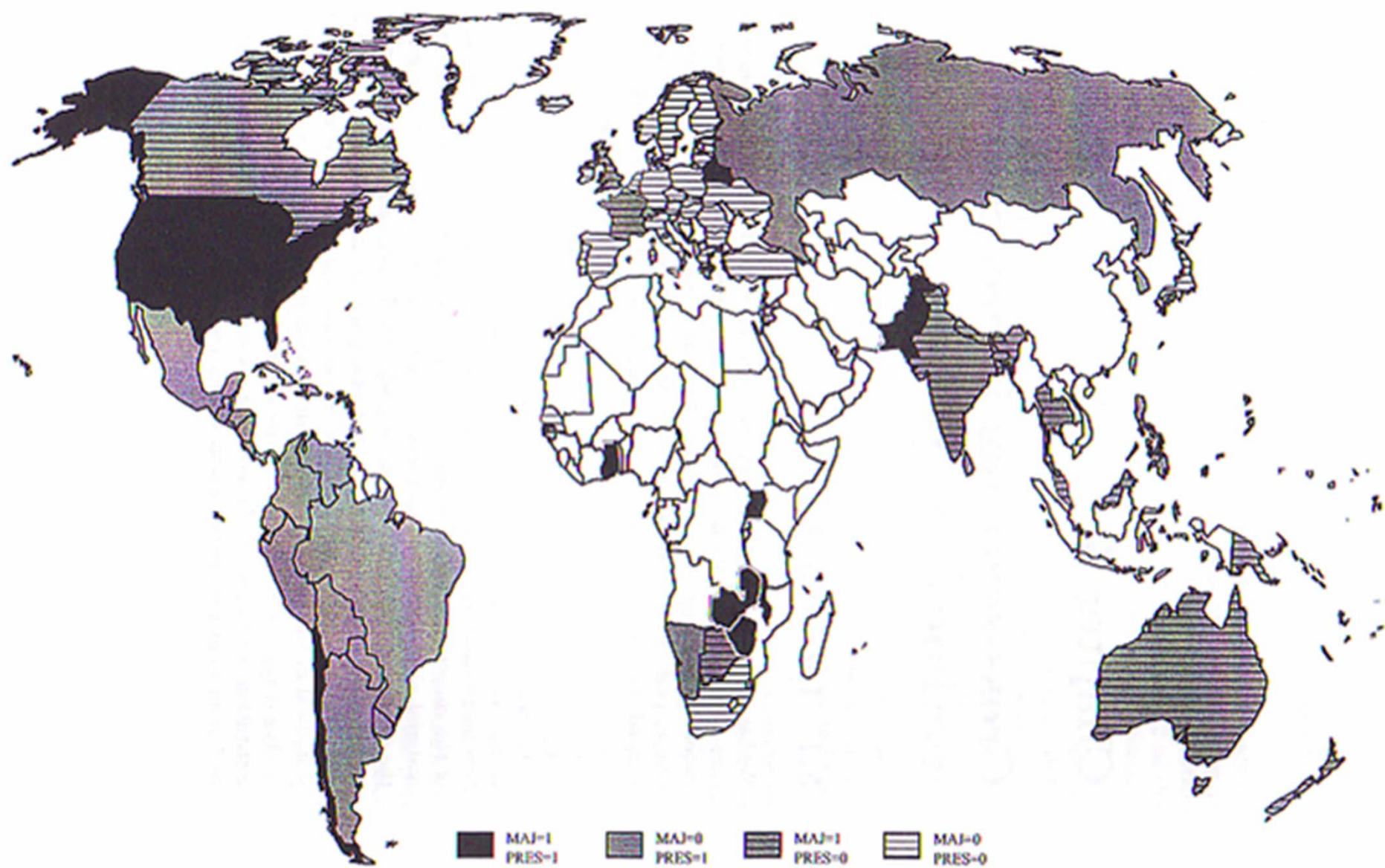
Electoral Rules and Size of Government

Table 6.1
Size of government and constitutions: Simple regression estimates

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Dependent variable	CGEXP	CGEXP	CGEXP	CGREV	CGEXP	CGEXP	CGEXP
PRES	−6.08 (1.97)***	−5.29 (1.92)***		−5.17 (2.44)**	−8.29 (2.72)***	−3.46 (3.88)	−7.49 (2.72)***
MAJ	−3.29 (1.73)*	−5.74 (1.95)***		−3.03 (1.85)	−5.59 (2.68)**	−2.93 (3.09)	−4.81 (2.75)*
PROPRES			−7.08 (2.70)**				
MAJPAR			−7.30 (3.02)**				
MAJPRES			−10.36 (2.70)***				
Continents	No	Yes	Yes	Yes	Yes	Yes	Yes
Colonies	No	Yes	Yes	Yes	Yes	Yes	Yes
Sample	1990s, broad	1990s, broad	1990s, broad	1990s, broad	1990s, narrow	1960–1990s, broad	1990s, obs as (6)
Number of observations	80	80	80	76	62	60	60
Adjusted R^2	0.58	0.63	0.63	0.58	0.60	0.54	0.63

Note: Robust standard errors in parentheses. All regressions include standard controls: LYP, GASTIL, AGE, TRADE, PROP65, PROP1564, FEDERAL, and OECD. Narrow sample corresponds to countries where GASTIL is less than 3.5.
*significant at 10%; ** significant at 5%; *** significant at 1%.

CGEXP, CGREV = central government expenditure and revenues
MAJ = majoritarian system
PRES = presidential regime

Electoral Rules and Perceived Corruption

Table 7.1
Political rents and constitutions: Simple regression estimates

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Dependent variable	GRAFT	GRAFT	GRAFT	GRAFT	GRAFT	GRAFT	CPI9500	GOVEF	GRAFT	GRAFT
PRES	−0.52 (0.30)*	−0.79 (0.38)**	−1.41 (0.68)**	−0.27 (0.30)	−0.53 (0.31)*	−0.42 (0.31)	−0.27 (0.43)	−0.30 (0.35)	−0.04 (0.30)	−0.28 (0.32)
PRES_BAD			0.35 (0.24)							
MAJ					−0.24 (0.62)	−0.81 (0.46)*				−0.14 (0.31)
PIND	−2.12 (0.76)***	−2.88 (0.85)***	−2.10 (0.75)***		−1.83 (1.06)*		−2.88 (1.02)***	−2.01 (0.87)**		
PINDO				−0.57 (0.29)**		−0.45 (0.29)				
MAGN	2.72 (0.87)***	3.53 (0.95)***	2.61 (0.86)***	0.86 (0.41)**	2.63 (0.90)***	1.51 (0.54)***	3.39 (1.14)***	2.14 (1.01)**		
SPROPN									1.25 (0.47)**	
SDM									−0.01 (0.00)**	
Continents and colonies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample	1990s, broad	1990s, narrow	1990s, broad	1990s, broad	1990s, broad	1990s, broad	1990s, broad	1990s, broad	1990s, broad	1990s, broad
Number of observations	78	59	78	78	78	78	68	78	72	78
Adjusted R^2	0.84	0.87	0.84	0.83	0.84	0.83	0.88	0.75	0.87	0.81

Table 7.1 (continued)

Note: Standard errors in parentheses. Estimation: by weighted least squares. Weights...

GRAFT, CPI9500 = indicators of perceived corruption (from surveys)
PIND = share of members of Parliament elected with individual ballot
PINDO = share of members of Parliament elected with individual ballot or open party list
MAGN = inverse of district magnitude (e.g., =1 UK, close to 0 Israel)
SDM = weighted average of district magnitude

Empirical Evidence Within Italy

Gagliarducci, Nannicini, and Naticchioni (2011) use micro data on <u>dual candidates</u> in the Italian two-tier system (75% majoritarian & 25% closed-list proportional)

We use RDD where the running variable (i.e., the variable assigning politicians to the majoritarian or proportional tier) is the <u>margin of victory</u> in the majoritarian district

We find that the majoritarian system increases <u>geographically targeted</u> policies and <u>shirking</u> in office, as opposed to proportional representation

Data

We use a unique dataset about members of the Italian House of Representatives from 1994 to 2006 (legislative terms XII, XIII, and XIV).

The dataset contains a rich set of individual information:

- demographic characteristics (age, gender, marital status, etc.);

- education, previous job, and political experience (parliament tenure, local government or political party experience, etc.);

- system/district of election and vote share;

- information on the *targets* of bills; *absenteeism* rate in electronic votes.

$\Rightarrow$ <u>1,699</u> observations: 1,305 treated/majoritarian; 394 control/proportional.

$\Rightarrow$ <u>1,218</u> politicians: 871 always in the majoritarian tier; 237 always in the proportional tier; 110 switched from one tier to the other.

The official classification of bills (TE.SE.O.)

Bills are classified using **TE.SE.O.** (*TEsauro SEnato per l'Organizzazione dei documenti parlamentari*) system, consisting of:

- 3,668 hierarchical terms (e.g., from "art" to "urban architecture");
- 9,602 geographical places (single entities, like a museum, included).

For each bill, the Documentation Center of the Italian Parliament reports each region, province or town presenting any affinity with the bill.

We then matched this information with the district of election of the representative who presented the bill.

Descriptive statistics

	Proportional	Majoritarian	Difference	-diff95%	+diff95%
Male	0.756	0.914	-0.158	-0.194	-0.122
Married	0.652	0.756	-0.104	-0.154	-0.054
Age	48.566	48.248	0.318	-0.769	1.405
Schooling	16.102	15.976	0.125	-0.143	0.393
Different Residency	0.094	0.033	0.061	0.037	0.085
Local Govt. Exp.	0.431	0.564	-0.133	-0.188	-0.077
National Politician	0.274	0.207	0.067	0.020	0.114
Freshman	0.776	0.728	-0.048	-0.096	0.000
Incumbent	0.400	0.365	-0.034	-0.090	0.020
Switching	0.299	0.101	0.198	0.160	0.237
Center-Right	0.383	0.405	-0.021	-0.077	0.034
Parl. Appointments	0.089	0.074	0.015	-0.015	0.045
White Collar	0.051	0.051	0.000	-0.025	0.025
Lawyer	0.119	0.135	-0.016	-0.054	0.023
Manager	0.145	0.137	0.008	-0.032	0.047
Politician	0.201	0.162	0.039	-0.004	0.081
Entrepreneur	0.086	0.100	-0.013	-0.047	0.020
Teacher	0.109	0.090	0.019	-0.014	0.052
Self Employed	0.071	0.111	-0.040	-0.074	-0.006
Physician	0.053	0.090	-0.036	-0.067	-0.006

Targeted bills and rents

	Proportional	Majoritarian	Difference	-diff95%	+diff95%
No. of Bills	8.046	8.493	-0.448	-1.876	0.980
No. of Targeted Bills	0.652	0.981	-0.329	-0.525	-0.132
Fraction of Targeted Bills	0.073	0.112	-0.040	-0.061	-0.018
No. of Observations	*394*	*1,305*			
Absenteeism Rate	0.366	0.309	0.057	0.032	0.082
No. of Observations	*368*	*1,260*			

From merely descriptive point of view, majoritarian representatives

- present more targeted bills

- and make less absences.

Smoothed average of the share of targeted bills
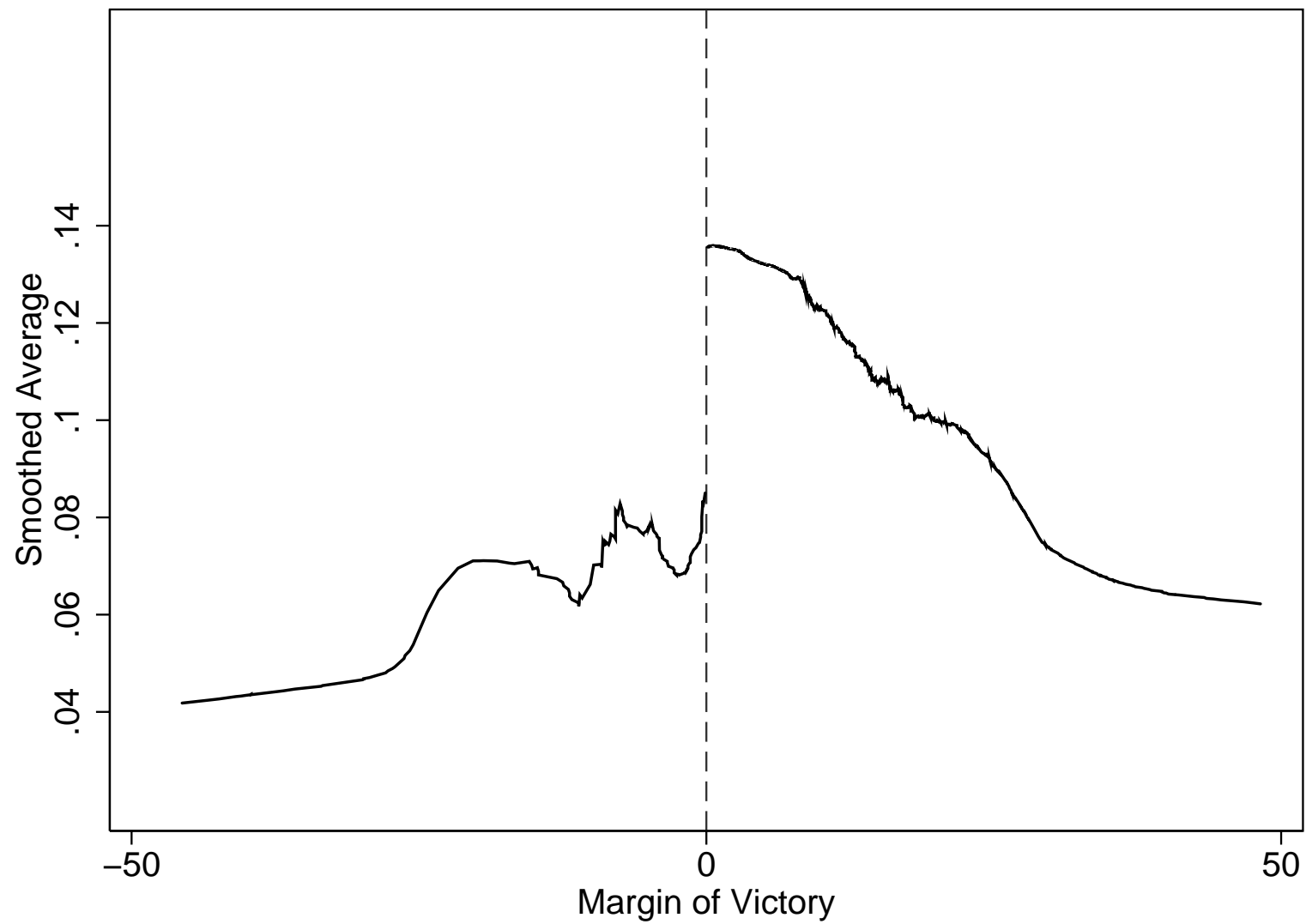
Smoothed average of the absenteeism rate