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Working Paper Series  
Department of Economics  
University of Verona

## Electoral incentives in small polities: a case study

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WP Number: 18

September 2020

ISSN: 2036-2919 (paper), 2036-4679 (online)

# Electoral incentives in small polities: a case study <sup>☆</sup>

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## Abstract

It is well known, from the pioneering work of Lizzeri and Persico (2001) on, that in winner-take-all systems office-motivated politicians prefer to underprovide public goods in favor of pork-barrel spending. Believing that similar incentives are present even in small polities, we analyze a policy proposal in a medium-sized Department of Economics obtaining results in line with the empirical literature on government spending.

*Keywords:* Polity, Electoral Incentives, Public goods provision

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<sup>☆</sup>We would like to thank Leo Ferraris and Giovanna Iannantuoni for valuable comments. We gratefully acknowledge financial support from MIUR under the PRIN 2017 program, grant number 2017K8ANN4 “New approaches to Political Economy: from Methods to Data”.

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## 1. Introduction

The political process often gives politicians incentives to propose inefficient policies. For instance, think of the classical Downsian model of electoral competition: the proposed policy is the preferred one by the median voter independently of any welfare considerations. Clearly, different political systems offer different incentives. Lizzeri and Persico (2001) show that winner-take-all systems make pork-barrel spending more attractive than public goods provision compared to proportional systems in which the margin of victory matters. Gavazza and Lizzeri (2009) provide a theoretical model in which transparency reduces targeted spending. Clearly, public debate increases transparency in the decision process.

Empirical studies show that majority systems are characterized by a more targeted redistribution and less public goods provision than proportional ones (see, among others, Persson and Tabellini 1999, 2004; Milesi-Ferretti et al. 2002; Gagliarducci et al. 2011). Furthermore, Deacon (2009) offers evidence that countries where political power is more concentrated provide lower level of public goods compared to more democratic ones while Gerring and Thacker (2004) note that parliamentary systems help in improving political outcomes.

We believe that the incentives highlighted by Lizzeri and Persico (2001) are present in any polity, also small ones. Empirical analysis of targeted spending in small polities may be facilitated by data availability since supporters may be identified with much more precision than in mass elections and, furthermore, it offers the possibility to see whether non-professional politicians behave similarly to professional ones.

In this note we analyze a policy proposal in a medium-sized Department of Economics obtaining results in line with the literature on government spending. The policy proposal consists of a revision of the Leading Journals List already in use to distribute internal research funds and as a guideline for hiring committees. Interestingly, at the same time, a majority of Faculty members explicitly expressed their support for the governance by submitting a petition on a different issue. The joint occurrence of these two events allows us to conduct a neat empirical study of the policy proposal. Using data at the individual level, we shall provide empirical evidence that signing the petition significantly increased the probability to be among those who would have benefited from the policy proposal and that such a targeted redistribution has been mitigated by public discussion. Further, our analysis differs from previous empirical works on public goods provisions under majority voting in that it considers a policy proposal and not the observed policies implemented by governments. We hope that our analysis will spur interest in analyzing resource allocations in small polities.

## 2. The Institutional setting

This case study considers a medium-sized Department in a large public University in Northern Italy. Italian Departments are organized as follows: the Head of the Department is elected by majority voting by the Faculty among full professors for a three-year term, renewable once; the Executive Committee (elected too) supports the Department Head in administrative issues; a Faculty meeting is held monthly. Among other issues both human and monetary resources allocation are taken in these Faculty meetings.

Professors are hired via open calls in a single “Settore Scientifico-Disciplinare” (SSD), disciplinary areas defined by the Ministry of the University. These ‘Calls’ are in fact regulated procedures with steps defined both by the legislation and by university regulations. For administrative purposes, SSDs are sometimes aggregated in so-called “Macrosettori”. In this Department, Faculty belongs to one of the following “Macrosettori”: ‘Economics’ (which also includes econometrics), ‘Economic History’, and ‘Statistics and Applied Mathematics’.

The academic career structure is defined by the legislator and, since 2010, it is given by:

- Full and Associate professors, both are permanent positions,
- RTDb, a 3-year tenure track assistant professor position leading to associate professor after positive review by an external committee and by the department,
- RTDa, a 3-year non-permanent assistant professor position which may have a 2-year extension,
- RU, a phased out ‘quasi’-assistant professor permanent position being replaced by RTDa and RTDb in 2010.

A brief chronological review of salient facts is necessary to frame matters in a proper way. In 2012, this Department adopts a list of Leading Journals (A+ and A Journals) to distribute internal research funds, which are transferred annually by the University. In Summer 2019, the Department decides to use the Journals List to provide official guidelines for hiring committees.

In Spring 2019, the Department appoints an external board (Research Advisory Board, RAB) to monitor and provide guidance on scientific aspects of the departmental life including the allocation of research funds and recruiting guidelines. In December 2019, the RAB issues a Report which, among other things, includes the draft of a new Leading Journals List. This draft contains a limited number of upgrades and downgrades from the original A+ and A Journals and it adds (and fills) a third tier of B Journals.

In Spring 2020, the Faculty appoints an Internal Committee (three components) to further add a few journals in the “Economic History” and “Statistics and Applied Mathematics” areas in the B class of the RAB’s draft. Later, the mandate has been extended to propose changes to both the A+ and A classes, as modified by the RAB.

The Leading Journals List proposed by the Internal Committee is the policy proposal considered in this case study. After being reviewed and approved by the Executive Committee and the Head of the Department, the policy proposal has been placed on the agenda in two formal Faculty meetings. Because of critical remarks by some Faculty members in the first meeting, the Internal Committee was asked to work on a revised proposal. The revised Leading Journals List has been formally approved in the following Faculty meeting.

In Spring 2020, a group of Faculty members signs a petition containing both a praise of the current governance and a request addressed to the Executive Committee to assess the opportunity to prepare a draft of internal “Policies and Procedures” to be discussed in some upcoming Faculty meeting. The campaign to sign this petition and the process towards a Leading Journals List took place contemporaneously.

Petitioners happened to form a majority among Faculty members or, perhaps better given the content of the petition, a supporting majority<sup>1</sup>. A further relevant aspect to take into account is the composition of the Internal Committee: two out of three members did sign the petition and the third member is the Deputy Head. Petitioners expressing a majority, members of the Internal Committee and governance are therefore intertwined in the transition process towards the new Leading Journals List.

### 3. The case study

#### 3.1. Data

Data on publications by Faculty members have been collected by the Authors from the online official repository of publications (accessed on July 2nd, 2020). We classify Faculty members in four categories: “Gainers”, “Unaffected”, “Losers”, and “Undetermined”. In particular, a Faculty member is Unaffected if the number of publication in each one of the three classes is unchanged. A Faculty member is a Gainer (Loser) if she jointly has weakly more (less) publications in the A+ class, weakly more (less) publications in the A+ and A classes, and weakly more (less) publications when moving from a given Journals List to a different one, where at least one of the inequalities holds strictly. Finally, “Undeterminess” arises whenever it is not possible to say whether a Faculty member will be better of, worse of, or will be unaffected by the policy proposal<sup>2</sup>. The policy proposal and its revision are from the transcripts of meetings. The reference point is the RAB’s draft.

Our main interest concerns the effect of moving from the RAB’s draft to the policy proposal proposed by the Internal Committee before and after the departmental discussion. Members of the Executive Committee have been removed from the dataset.

#### 3.2. Results

We start our data analysis from Table 1 and Table 2, the cross-tabulation of outcomes (Gainers, Unaffected, Losers) and petitioners (yes/no), for the full sample and for the sample of Faculty members who have at last one publication in at least one of the Journals of any list, respectively. For brevity, we focus on Table 2, where the sample is restricted to those Faculty members potentially affected by the ranking of Journals in the proposed tiers, similar remarks apply to Table 1.

Table 2 contains indeed preliminary but clear evidence that signing the petition matters, Gainers are well over-represented among petitioners. In detail, considering the left panel (first proposal), 75% of the Gainers turn out to have signed the petition (a formal test of independence between outcomes and petition is equal to 7.004, p-value=0.03, and rejects the null of independence); Losers

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<sup>1</sup>According to University Policies and Procedures (a) the Head of the Department must include in the Agenda any issue raised by at least 1/5 of Faculty members, (b) the decision to have or not to have some internal Policies and Procedures must be taken by the Department Council not by the Executive Board.

<sup>2</sup>This could happen, for instance, if she has more publications overall but fewer publications in the higher classes. The only “Undetermined” Faculty member is a member of the Executive Committee and therefore excluded from the analysis.

among petitioners are about one-third of all losers while unaffected Faculty members who did not sign are about 3/4 of all ties. The overall picture is that, in the first proposal, petitioners are over-represented among Gainers and under-represented among Losers and Unaffected.

The right panel of Table 2 highlights how an open discussion in formal meetings did lessen pork-barrel proposals. In the revised proposal, losers are equally likely among petitioners and the others, unaffected Faculty members increase by about 20 percentage points and Gainers decrease by almost the same amount. This occurs even though the fraction of petitioners among Gainers remains almost constant. A formal test of independence between outcomes and petition is equal to 2.74,  $p$ -value=0.254, so that we can not reject the null of independence. Overall, the discussion led to a revised proposal with less Losers and less Gainers and a larger fraction of Unaffected Faculty, and this is probably the reason the resolution passed with a large majority. We should also add that, in the revised proposal, the Committee explicitly motivated each change made for ‘Economics’ while the reasons to add specific journals in the other two areas were not made explicit. This can explain why, even after the revision, a bias in favor of petitioners still appears to be present even if the small sample size does not allow us to reject the null hypothesis of independence. This remarks also applies to the regression analysis that follows.

Results from Ordered Probit models for the three outcomes “Gainers”, “Unaffected” and “Losers” in the first and in the revised proposal by the Internal Committee are presented in Tables 3 and 4. The main interest is on the effect on three ordered outcomes of being a petitioner. We consider several specifications with alternative control variables such as academic position, “Macrosettore” (Economics and Economic History), Gender. In addition, we consider both the restricted sample of “Economics” Faculty only, since ‘economics’ Journals were originally excluded from the mandate to the Committee, and the sample of Faculty members with at least one publication in the three classes A+, A and B<sup>3</sup>.

A positive (negative) coefficient in ordered Probit models indicates that an increase in the associated regressor induces an increase (decrease) in the probability of the highest outcome (“Gainer”), and a decrease (increase) in the probability of the lowest outcome (“Loser”). The direction of the effect on the intermediate category cannot be determined by simple inspection of the estimated coefficient.

Let us start by considering the first proposal, Table 3. The coefficient on “Petition” is positive in all specifications and statistically different from zero ( $p$ -values are always less than 5%). The effect of the first proposal by the Internal Committee is that being part of the majority supporting the current governance increases the probability of being a “Gainer” and decreases the probability of being a “Loser”. Results on the revised proposal after the discussion in the Faculty meeting are in Table 4. The coefficient on petition is not significantly different from zero at the 5% level, apart for the restricted sample of Faculty in the ‘Economics’ Macrosettore.

The average marginal effects (AME), together with their 95% confidence intervals, of petition participation on the three outcomes are graphed in Figure 1 both for the full sample and for the

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<sup>3</sup>In the revised proposal the three classes have been renamed as A++, A+, and A. For the sake of simplicity we maintain the original names.

restricted sample of Faculty with publications. These AME are significantly different from zero for the first proposal (point estimates are given by the black square and red hollow circle, 95% confidence intervals are also drawn). For the full sample, signing the petition lowers by about 20% the probability of being in the Losers and Unaffected categories while it increases by about 40% the probability of being a Gainer. Moreover, considering the sample of Faculty with at least one publication in any of these Journals Lists the effect is, as expected, even stronger: signing the petition lowers by about 25% the probability of being a loser and by about 30% the probability of being unaffected while it increases by more than 50% the probability of being a Gainer. We interpret this as strong evidence that, when defining a mechanism to allocate monetary and human resources, the current governance revealed an attitude to act as in a winner-take-all spoiling system.

Average marginal effects for the revised proposal are also graphed in Figure 1. AME are smaller now and turn out to be not significantly different from zero (point estimates are given by the green triangle and magenta diamond, 95% confidence intervals are also drawn) both in the full sample and in the sample of Faculty with publications in the Lists. These results highlight how the winner-take-all system incentives are mitigated by public discussion. As a further result, the positive and statistically significant (at the 1% level) coefficient on Associate professor indicates that Faculty members in this academic rank benefit greatly from the revised proposal, which can be interpreted as an attempt to gain consensus from the group of Faculty members mostly affected by internal rules on career advancement.

In Table 5 we consider the issue of reverse causality: is petition participation higher among Faculty members with a better publishing record? In fact, one might argue that petitioners appear more often among the Gainers because they are more likely to be leading scholars, the Journals List proposed by the Internal Committee would therefore necessarily reflect the correlation between Leading Journals and the most productive and up-to-date researchers. To this end, we consider whether petitioners are more likely to publish in leading Journals considering three possible Journals Lists: first, the broad and narrow Lists used by Tilburg to rank Economics Department worldwide<sup>4</sup>; second, the List proposed by the RAB and, third, the list adopted by the Department in 2012, before the revision process began. Table 5 reports the Average Marginal Effects from a Probit model for petition participation as a function of the past publishing record as proxied by a dummy variable equal to one if the Faculty member has at least one publication in at least one Journal in the relevant list<sup>5</sup>. We find no significant effect of a better publishing record on petition participation in any of the different specifications considered thus ruling out the reverse causality issue.

#### 4. Conclusion

Using data at the individual level, we have analyzed a policy proposal in a medium-sized Department of Economics. The results we obtain show that the proposal would have positively affected a supporting majority and that a public discussion led to a more balanced one. Our findings are in line

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<sup>4</sup><https://econtop.uvt.nl/>

<sup>5</sup>Results are unchanged if the number of publications is used in place of the dummy variables (not shown, available upon request).

with the empirical literature on government spending. Further empirical investigations on targeted spending in small polities appear then worthwhile to understand if this analogy is pervasive.

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Table 1. Distribution of “Gainers”, “Unaffected” and “Losers” vs “supporters”, full sample

	First proposal			Revised proposal		
	Supporter			Supporter		
	No	Yes		No	Yes	
Losers	5%	2.5%	7.5%	2.5%	2.5%	5%
Unaffected	30%	22.5%	52.5%	35%	32.5%	67.5%
Gainers	10%	30%	40%	7.5%	20%	27.5%
	45%	55%	100%	45%	55%	100%

Table 2. Distribution of “Gainers”, “Unaffected” and “Losers” vs “supporters”, faculty with publications only

	First proposal			Revised proposal		
	Supporter			Supporter		
	No	Yes		No	Yes	
Losers	7.14%	3.57%	10.71%	3.57%	3.57%	7.14%
Unaffected	25%	7.14%	32.14%	32.14%	21.43%	53.57%
Gainers	14.29%	42.86%	57.14%	10.71%	28.57%	39.29%
	46.43%	53.57%	100%	46.43%	53.57%	100%

Table 3. Ordered Probit Model for “Gainers”, “Unaffected” and “Losers”, First Proposal

	(1)	(2)	(3)	(4)	(5)
Petition	1.190*** (0.4222)	0.8187** (0.3903)	1.317*** (0.4302)	2.119*** (0.5833)	2.419*** (0.5434)
Full professor	1.474** (0.6642)		1.363** (0.6108)	0.7283 (0.6134)	1.364** (0.6179)
Associate professor	0.8828* (0.5266)		0.8406* (0.4674)	-0.5189 (0.5887)	0.4463 (0.5620)
RTDb	-0.7117 (0.7314)		-0.9215 (0.6659)	-1.364** (0.6686)	-1.769*** (0.6637)
RTDa	0.03379 (0.5200)		-0.1144 (0.4276)	-0.5874 (0.5683)	
Economics		0.4412 (0.4728)	0.5938 (0.4824)		
Economic History		-0.2503 (0.4961)	-0.2278 (0.4082)		
Female	0.1831 (0.4421)	-0.09491 (0.3524)	0.1524 (0.4281)	0.2826 (0.5842)	0.6461 (0.5308)
$\mu_1$	-0.5732 (0.5147)	-0.9369* (0.5467)	-0.3379 (0.5222)	-1.624*** (0.5290)	-0.3491 (0.5796)
$\mu_2$	1.683*** (0.5916)	0.9203* (0.5195)	1.983*** (0.6195)	1.015** (0.4373)	1.380** (0.6551)
$n$	40	40	40	23	28

Note: RTDb and RTDa stand for Assistant Professor with and without tenure track, respectively; Economics and Economic History are dummy variables for Macrosettore 13A and 13C, respectively, the excluded Macrosettore is Statistics and Applied Mathematics (13D). Column (4): Economics (13A) only; Column (5): Faculty with publications only. Robust *SE* in parenthesis. \*, \*\* and \*\*\* stand for significantly different from zero at the 10%, 5% and 1% level.

Table 4. Ordered Probit Model for “Gainers”, “Unaffected” and “Losers”, Revised Proposal

	(1)	(2)	(3)	(4)	(5)
Petition	0.7787* (0.4311)	0.4305 (0.4144)	0.7264* (0.4397)	1.344** (0.6669)	0.8891* (0.4896)
Full professor	0.8170 (0.5320)		0.6773 (0.5246)	0.3211 (0.7271)	0.5763 (0.6826)
Associate professor	1.356*** (0.3877)		1.290*** (0.3736)	1.081** (0.4819)	1.381*** (0.4959)
RTDb	0.06016 (0.6810)		-0.07182 (0.6977)	0.4135 (0.5888)	-0.1443 (0.5669)
RTDa	0.3196 (0.3119)		0.1757 (0.3209)	0.9762** (0.4574)	
Economics		-0.04463 (0.4604)	0.009072 (0.4653)		
Economic History		-0.5076 (0.4582)	-0.6372 (0.4323)		
Female	0.1485 (0.4042)	-0.02904 (0.3853)	0.1177 (0.4072)	-0.6089 (0.4837)	0.03671 (0.5625)
$\mu_1$	-0.6255 (0.5014)	-1.529** (0.6521)	-0.8108 (0.6057)	-1.103** (0.5551)	-0.5719 (0.8203)
$\mu_2$	1.984*** (0.5288)	0.7818 (0.5166)	1.817*** (0.5705)	1.838*** (0.6613)	1.534** (0.7798)
$n$	40	40	40	23	28

Note: RTDb and RTDa stand for Assistant Professor with and without tenure track, respectively; Economics and Economic History are dummy variables for Macrosettore 13A and 13C, respectively, the excluded Macrosettore is Statistics and Applied Mathematics (13D). Column (4): Economics (13A) only; Column (5): staff with publications only. Robust *SE* in parenthesis. \*, \*\* and \*\*\* stand for significantly different from zero at the 10%, 5% and 1% level.

Table 5. Marginal Effects - Probit Model for Petition Participation

	(1)	(2)	(3)	(4)	(5)
Tilburg (broad)	-0.016 (0.18)				
Tilburg (narrow)		0.045 (0.18)			
Department List			0.054 (0.18)		
A+/A RAB				0.044 (0.19)	
B RAB					-0.049 (0.16)
Full professor	-0.230 (0.30)	-0.274 (0.28)	-0.272 (0.26)	-0.273 (0.28)	-0.211 (0.30)
Associate professor	-0.293 (0.25)	-0.316 (0.23)	-0.314 (0.22)	-0.317 (0.23)	-0.282 (0.25)
RTDB	-0.063 (0.33)	-0.114 (0.32)	-0.110 (0.29)	-0.110 (0.32)	-0.045 (0.31)
RTDA	-0.347 (0.26)	-0.360 (0.25)	-0.340 (0.26)	-0.349 (0.25)	-0.339 (0.26)
Female	-0.338** (0.15)	-0.343** (0.15)	-0.351** (0.15)	-0.343** (0.15)	-0.335** (0.15)

Note: RTDb and RTDa stand for Assistant Professor with and without tenure track, respectively. The binary dependent variable is equal to 1 if a Faculty member signed the petition. The independent variables of interest are defined as follows: Tilburg broad and Tilburg narrow are dummy variables for at least one publication in the broad or narrow Tilburg list; Department List, A+/A RAB, B RAB are dummy variables for at least 1 publication in the A+/A Department or RAB Lists or in the B RAB one. Robust *SE* in parenthesis. \*, \*\* and \*\*\* stand for significantly different from zero at the 10%, 5% and 1% level.

Figure 1: Average Marginal Effects of Petition

