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Working Paper 2011:5

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May 2011

## DO POLITICIANS' PREFERENCES MATTER FOR VOTERS' VOTING DECISIONS?

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# Do Politicians' Preferences Matter for Voters' Voting Decisions?\*

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First draft: October 28, 2008

This version: May 16, 2011

## Abstract

Using unique survey data that allows us to observe both voters' and politicians' preferences for local public spending as well as voting decisions, this paper tests if voters typically support parties in which the politicians' preferences are closest to their own. Doing so would be rational for the voters to do if politicians' preferences matter for policy outcomes, as is the case in e.g. the citizen-candidate model. It is found that this is indeed the case. This finding is in line with theoretical models such as the citizen-candidate model arguing that politicians cannot credibly commit to election platforms that differ from their true policy preferences.

Key words: Elections, voting, preferences for public services

JEL classification: H71, P16

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\* Discussions with Ben Lockwood and comments from participants at the 65<sup>th</sup> Congress of the International Institute of Public Finance in 2009, the Workshop on "The Economics of Political Economics" in Milan, the Spanish Meeting in Public Economics in 2009, IEB at the University of Barcelona and the Department of Economics at Uppsala University are gratefully acknowledged.

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## 1. Introduction

When analyzing the democratic decision process within a political economics framework, a number of important assumptions must be made. These include, for example, whether politicians are office- or policy-motivated, whether they can credibly commit to election platforms and whether voters are retrospective or prospective (i.e., whether they react to past policies or election promises about the future). Depending on which assumptions are made, the predictions from the theoretical models will differ. For example, in the standard median voter model first developed by Downs (1957) and Black (1958), both office- and policy-motivated politicians will end up with election platforms corresponding to the median voter's most preferred position. If one instead assumes that politicians are policy-motivated and cannot commit to election promises, the story will be different. Politicians' preferences are then likely to matter for implemented policy, and rational voters understanding this will consider politicians' preferences for different policy issues at the election booth.<sup>1</sup> The citizen-candidate model, put forth by Osborne and Slivinsky (1996) and Besley and Coate (1997), rely on exactly these assumptions and model politicians as citizens with preferences on the same issues as the rest of the citizens, but that have decided to run for office. Depending on which assumptions that are made, theoretical models will hence end up in different theoretical predictions about, e.g., whether politicians' preferences matter for implemented policies or not. As always, it is in the end an empirical question, and recent empirical evidence indicates that parties do matter, which speaks in favor of the second class of theoretical models. For example, using a regression-discontinuity approach, Lee et al. (2004) and Pettersson-Lidbom (2008) find evidence of a partisan effect (i.e., that parties matter for policy outcomes) using data from the U.S. congress and Swedish local governments, respectively. Ferreira and Gyourko (2009), on the other hand, do not find any evidence of a partisan effect in U.S. cities.

A shortcoming of the above mentioned empirical studies is that even though they can credibly estimate causal partisan effects, they are silent on the mechanism to *why* parties

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<sup>1</sup> Alesina (1988) first established that politicians with policy preferences would not be able to commit to a policy that is opposed to their own preferences.

matter, and to what extent voters are aware of politicians' preferences and take these into account when casting their votes. The aim of this paper is to dig deeper into the mechanism in place and examine whether voters' care about politicians' preferences when voting and elect politician with preferences most like their own.<sup>2</sup> Given that politicians cannot commit to election platforms, this is what we would expect. On the one hand, if the median voter model is correct, the politicians' preferences should not matter for the outcome and voters should not care about these preferences. It could also be the case that voters are not aware of the preferences of politicians, in which case they would simply not be able to select the "right" politicians. Hence, even if earlier studies have found that politicians' identities matter for the outcome, more information is needed in order to understand which theoretical model that best describe the behavior of politicians and voters. The value added of our paper is thus that we test the assumptions behind the models rather than the predictions from the models.

Testing whether voters vote for the political candidate who has preferences most like their own is quite demanding of data. We need information about both the voters' and the politicians' preferences for certain policies as well as information on how voters actually cast their votes. In this paper, we will combine survey data from local elections with register data from Swedish local governments. Most importantly, both the voters and the elected politicians answer identical questions about their preferences for local public spending and tax rates. Furthermore, voters are asked for which party they voted.

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<sup>2</sup> The question of whether voters vote for the candidates with preferences most like their own is also of great interest in the political science literature, where two competing models have been put forth: the proximity model and the directional model. The proximity model predicts that voters vote for the party with preferences closest to their own, as in Downs's classical model, whereas the directional model predicts that voters vote for the party favoring their own side and prefer a more "intense" party on their own side to a less intense party. There has been a debate in political science on whether the proximity model or the directional voting model works best. Macdonald, Listhaug and Rabinowitz (1991) claim that the directional model is superior, whereas Westholm (1997, 2001) claims that there is no support for the directional model. Finally, Lewis and King (1999) state that there is no good test supporting either model.

The rest of the paper is organized as follows. The next section describes the role of local governments in Sweden, the party structure at the local level and how political decisions are made. In Section 3, we propose a theoretical model describing voting behavior in a situation where voters observe politicians' preferences and consider these at the election booth. Section 4 presents the different data sources and our dataset. Section 5 discusses the empirical specifications corresponding to the theoretical model. The results are presented in Section 6, and finally, Section 7 concludes.

## 2. Local governments in Sweden

In this paper, we focus on elections to the municipal councils in Swedish local governments. Two main factors make Swedish municipalities a good testing ground for theories of political decision-making. First, Sweden has a long tradition of strong and autonomous local governments. The degree of autonomy refers both to the right to decide on the provision of local public services (above certain minimum standards) and to the right to set the local income tax rate. Hence, local politicians are able to affect economic policy and the level of local public spending. Second, the local public sector plays a dominant role in the Swedish economy. It is responsible for supplying the lion's share of the welfare services provided by Swedish governments. Furthermore, municipal expenditures make up approximately 25 percent of the GDP, and approximately 20 percent of people employed in Sweden are employed by the municipalities. Hence, the decisions made at the local level are of great importance for the voters, and we can expect voters to care about the decisions made at the local level.

The political decisions at the local level are made by municipal councils elected in local elections. Sweden has a proportional election system, and until 1994, the local elections were held every third year on the same day as the election for the central government. Sweden is (and has been) characterized by a multi-party system where the parties typically can be divided into two different political blocs, one right-wing and one left-wing. The parties that are represented at the central level are typically also present at the local level. In addition, there are a number of local parties. In this paper, we use data collected in

connection with the local elections in 1979 and 1991. In 1979, four right-wing parties (m, fp, c, kd) and four left-wing parties (s, v, sk, sa) existed, of which the Social Democrats (s) were by far the largest. In 1991, an environmental party (mp) and a right-wing populist party (nyd) had emerged.<sup>3</sup> In this paper, we will primarily treat the different parties as two political blocs, as is done in Alesina et al. (1997). During the studied period, coalitions across these two political blocs were very rare at the Swedish local government level. As a sensitivity analysis we will also treat the different parties as separate units.

At the elections, the voters do not choose politicians directly but choose between different lists presented by the different parties. These lists contain the names of politicians from the party running for election. The parties have also ranked the candidates, meaning that the first candidate on the list will get the first seat that the party wins in the municipal council, the second candidate on the list will get the second seat, and so on. It is possible for a voter to delete a candidate that he does not like from the list or to choose a candidate that he likes the most. For these changes to actually matter, however, several voters must make the same choices.

As mentioned above, the data we use in the paper was collected in connection with the 1979 and 1991 elections. Therefore, it is relevant to look back in time and discuss the responsibilities and sources of revenue of the Swedish municipalities at those times. In 1979, the two most important responsibilities of the local governments were supplying childcare and care for the elderly. In addition, they were responsible for social assistance and the local infrastructure. The responsibility for schooling was at the central level, although the municipalities were responsible for providing school buildings, meals for the pupils and some additional material. In 1991, the responsibility for schooling was decentralized from the central to the local level, increasing the role of local governments. There are three main revenue sources for Swedish municipalities: their own tax revenues (from a proportional income tax), grants from the central government and fees. The local

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<sup>3</sup> See Table A1 in the appendix for a description of the different parties and their vote share at the central level.

income tax discretion in Sweden has been set by the constitution since 1974. The median municipal tax rate was fairly constant at around 17 percent from 1979 to 1991, but with a rather large distribution, from a minimum tax rate around 10 percent to a maximum just below 20 percent. Tax revenues constitute the major revenue source; from a share of approximately 40 percent in the 1970s and the first half of the 1980s, tax revenues had increased their share to slightly over 50 percent in the early 2000s. In 1979, the tax revenue share was 44 percent, and in 1991, it was 49 percent. While intergovernmental grants had a rather constant share from the mid-1960s to the early 1990s of between 20 and 26 percent, their share had fallen to below 15 percent in the early 2000s. In 1979, the share of grants was 23 percent, and in 1991, it was 26 percent. The same trend can be observed for fees as for grants, but at a lower share: the share of fees decreased from around 17 percent (in both 1979 and 1991) to below eight percent in the early 2000s. From the mid-1970s to the early 1990s, the pattern regarding all revenue sources shows a fairly similar trend.

To sum up, Swedish local governments are important suppliers of welfare services, and the local politicians have a large degree of freedom when it comes to setting the local tax rate as well as determining the level of public spending. Swedish local governments therefore make an excellent testing ground for how politicians' preferences affect voters' decisions.

### 3. Theoretical model

The aim of this paper is to test whether voters vote for the political candidate whose preferences are most in line with their own preferences. To define the empirical specifications we will in this section propose a simple theoretical model.

We assume the role of the political system is to determine the level of local public spending denoted by  $g$ . There are two parties,  $L$  and  $R$ ; politicians with high preferences for public spending have merged into party  $L$ , and politicians with low preferences have merged into party  $R$ . Denote the bliss points of the two parties as  $g_L$  and  $g_R$  respectively, with  $g_L > g_R$ .



Voters have preferences over the level of public consumption. They also have party-specific preferences over the two parties. Let  $b_i$  measure individual  $i$ 's ideological bias in favor of party  $R$ .  $b_i$  is a random variable uniformly distributed on the support  $\left[-\frac{1}{2\beta}, \frac{1}{2\beta}\right]$  and with a distribution function  $F(x_i) = \frac{1}{2} + \beta x_i$ . The payoff of voter  $i$  if party  $P$  wins the election is  $u_i(g_P) + D_P \cdot b_i$ , where  $D_R=1$ ,  $D_L=0$ . Voters cast their vote to maximize their utility given the two political options. Thus, voter  $i$  will vote for party  $L$  iff

$$u_i(g_L) \geq u_i(g_R) + b_i. \quad [1]$$

Given the distribution function of  $b_i$ , we can express the probability that voter  $i$  will vote for party  $L$  as

$$\Pr(v_i^L = 1) = F(u_i(g_L) - u_i(g_R)) = \frac{1}{2} + \beta(u_i(g_L) - u_i(g_R)). \quad [2]$$

Rewriting this expression, we can express it as follows:

$$\Pr(v_i^L = 1) = \frac{1}{2} + \beta(|u_i(g_i) - u_i(g_R)| - |u_i(g_i) - u_i(g_L)|). \quad [3]$$

Hence, an individual will vote in favor of party  $L$  if the policy preferred by party  $L$  is closer to the individual's preferences than the policy preferred by party  $R$ . Thus, the relative distance to two parties affects individuals' voting decisions. If voters vote for the party with preferences closest to their own, then  $\beta$  will be positive.

#### 4. Data

To test whether voters vote for politicians who have preferences that most closely match their own, we will combine data from three data sources in Sweden: data from surveys directed at voters, data from surveys directed at local politicians, and aggregate municipal

level data. The combined data provide us with what we consider a unique data set that is well suited for testing the hypothesis.

The surveys we use were conducted by political scientists in connection with the local elections in 1979 and 1993. They were directed at a random sample of citizens in a stratified sample of Swedish municipalities and at all elected politicians in these municipalities (except in 1993, when a sample of politicians was drawn).<sup>4</sup> The municipalities were chosen to represent different types of municipalities with respect to population and population density. We observe the preferences and the background characteristics of the voters just before the election and those of the politicians after the election. The pooled cross section covers 25 municipalities and 2,805 individuals (1,626 voters; 1,179 politicians) for the 1979 election and 28 municipalities and 8,353 individuals (6,952 voters; 1,401 politicians) for the 1991 election.

Because we want to test whether voters vote for the politicians whose preferences are most in line with their own, we need to observe policy preferences for both voters and politicians. This is possible since the surveys use the same questions for both groups. Because the local governments supply the bulk of the welfare services in Sweden and finance these largely through local taxes, it is likely that the size of the local public sector is important for the voters. Therefore, in the estimations, we use a survey question that asked the respondents (both politicians and voters) about their preferences for local public services and taxes. Specifically, the question is stated as follows:

“Consider the following claim: It is more urgent to lower the local taxes than to raise the level of local services. Do you

1. agree completely

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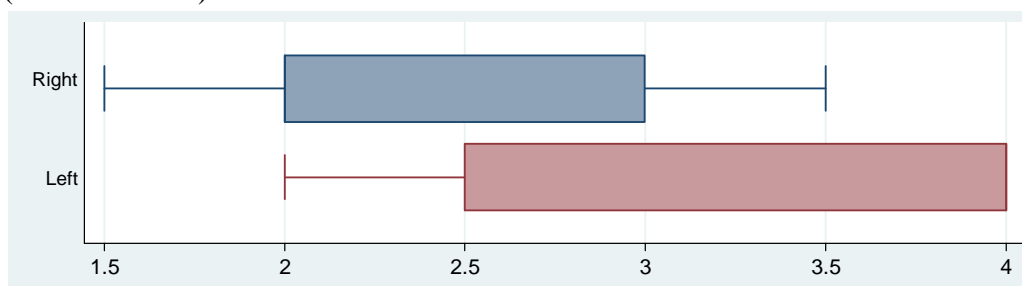
<sup>44</sup> The reply frequency in the surveys was fairly high, but with some variation over the years. In the 1979/80 survey, the figures were 82% for the voters and 77% for the politicians. In the 1991/93 survey, 46% of the voters and 79% of the politicians replied. The lower reply frequency among voters in 1991 was probably a result of the fact that the 1991 survey was conducted via mail rather than through direct interviews.

2. agree
3. disagree
4. disagree strongly
5. have no opinion”

One benefit of the way this question is stated is that it takes into account individuals' willingness to pay for a higher level of public service. Furthermore, it is formulated exactly the same way for voters and politicians. A potential problem with our data is that the voters and the politicians answer this question in different years, the voters in the election year and the politicians in the post-election year. If the tax rates and spending levels change between these two points in time, we cannot directly compare the answers given by voters and politicians. In the next section, we will discuss how we handle this potential problem.

The survey data give us the preferences of each politician. However, voters do not elect politicians directly, but vote for parties. Therefore, we need to aggregate the preferences of the politicians into party preferences or preferences of a political bloc. We will assume that the preferences of each bloc can be represented by the preferences of the median politician within each bloc. Figure 1 provides box- and whisker plots of these median politicians' preferences for the left-wing and right-wing blocs, respectively.

**Figure 1:** Observed median politicians' preferences for total local public spending, by bloc (1979 and 1991)

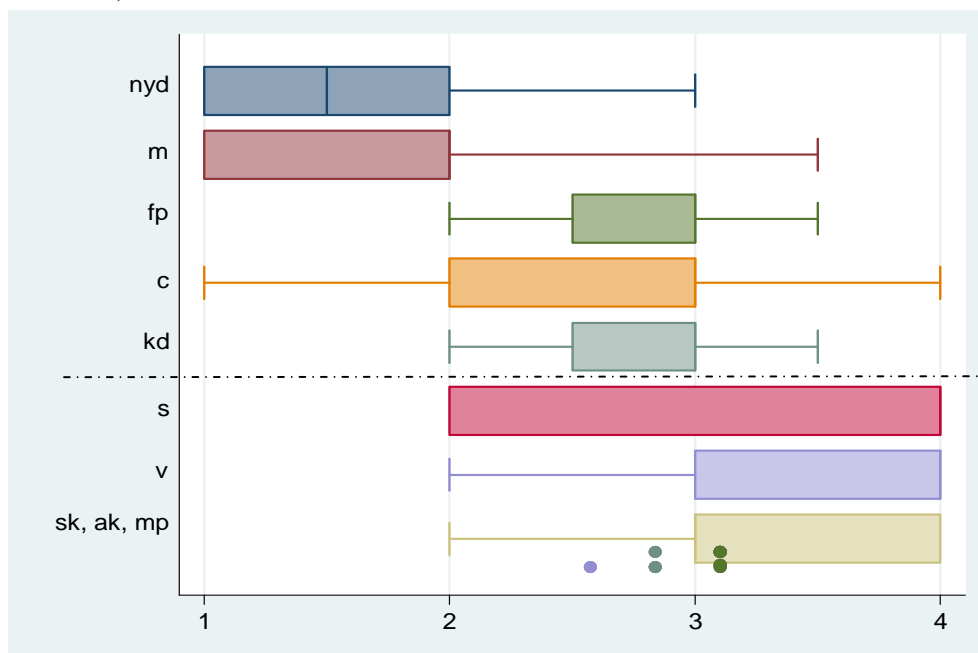


Notes: 1) The lines indicate the lower and upper adjacent values of the median politicians' preferences, considering the median value at each municipality. The colored area represents the values of the median politicians' preferences between the 25<sup>th</sup> and 75<sup>th</sup> percentile. 2) Preferences = 1 if "agree completely", = 2 if "agree", = 3 if "disagree", and = 4 if "disagree strongly".

From the box plot in Figure 1, we observe that there are clear differences in the preferences on local public expenditure between politicians belonging to the two different political blocs, which is a requirement to observe that politicians' preferences matter for voters' voting decisions. We also observe, as expected, that left-wing politicians have preferences towards higher local public expenditure than right-wing politicians do, indicating that there is indeed a left-right dimension to the size of the local public sector.

In Figure 2, we plot the median politicians' preferences by parties. We observe that there are clear differences across parties, especially among those belonging to the right-wing bloc (the parties belonging to the right-wing bloc are those above the dotted line in Figure 2). We also observe that within blocs, those parties that have more extreme ideological positions also have more extreme preferences on local public services.

**Figure 2:** Observed preferences for total local public spending, median by parties (1979 and 1991)



Notes: See Figure 1. The left-wing bloc consists of the parties Socialdemokraterna (s), Vänsterpartiet (v) and Sveriges Kommunistiska Parti (sk) and Arbetarpartiet kommunisterna (ak) in 1979; s, v and Miljöpartiet (m) in 1991. The other parties belong to the right-wing bloc.

In addition to the survey question regarding general preferences for locally provided public services, the surveys also include questions regarding preferences for specific public services such as schooling, childcare and social care. These questions are formulated in the following way:

“Certain activities for which the municipalities are responsible are presented below.

Please indicate whether you feel that

1. it is urgent that your municipality does more than it is doing at present
2. generally speaking, things are satisfactory at present
3. the effort of the municipality could be diminished
4. you have no opinion about it.”

Because an increase/decrease in spending is linked to an increase/decrease in taxes, it is important to link the answer of the latter question to the willingness to pay, which is indicated by the former question. Following Ahlin and Johansson (2001), we combine the reported preferences for an increased/decreased level of spending with preferences for a tax increase/decrease.

In addition to preferences for local public spending, voters are also asked whether they intend to vote in the upcoming local election and, if so, for which party. One may worry that voters do not truthfully report their voting intentions. It is therefore reassuring that the vote shares obtained by blocs as well as by the different parties in the local elections are quite similar to the distribution of the answers given by the respondents in our sample for how they intend to vote (see Table A2 in the appendix). Pooling the two local elections, the vote share obtained by the left-wing bloc in those municipalities was 49.34%, and among the individuals in our sample, it was 48.35% percent. We know from the data to which party the politicians belong.

In Table 1, we report summary statistics for the politicians' preferences for total local public spending, schooling, childcare and social care, respectively, according to whether they belong to the left-wing or right-wing bloc. We observe that the politicians of the left-wing bloc have statistically significant different preferences than those in the right-wing bloc. We performed a simple t-test on the equality of means for the median preferences by blocs considering all municipalities. In all cases, we can reject the null hypothesis that they are equal. We also observe that preferences differ more between the two blocs when it comes to spending on childcare and social care and that the preferences differ the least for spending on schooling.

**Table 1:** Summary statistics for the median politicians' preferences by municipalities (1979 and 1991)

	Mean	Max	Min	St d	Test different mean t [p-value]
<b>Pref. for total local spending</b>					-5.448 [0.000]
Right-wing bloc	2.429	3.500	1.500	0.503	
Left-wing bloc	3.311	4.000	2.000	0.836	
<b>Pref. for spending on schooling</b>					-3.504 [0.001]
Right-wing bloc	2.398	3.000	1.000	0.575	
Left-wing bloc	2.717	3.000	2.000	0.435	
<b>Pref. for spending on childcare</b>					-9.074 [0.000]
Right-wing bloc	1.645	3.000	1.000	0.565	
Left-wing bloc	2.567	3.000	2.000	0.485	
<b>Pref. for spending on social care</b>					-7.496 [0.000]
Right-wing bloc	1.446	2.000	1.000	0.478	
Left-wing bloc	2.177	3.000	2.000	0.367	

**Note:** the null hypothesis of the test on the equality of means is  $H_0$ :  $\text{mean}(\text{Right-wing bloc preferences} - \text{Left-wing bloc preferences}) = 0$ .

We perform the empirical analysis using, separately, the preferences for these four questions. It could be the case that depending on the salience of each issue, only the politicians' preferences on some issues are important for voters' voting decisions.

In our final sample, we have 4,055 voters' observations (1,243 for 1979; 2,812 for 1991). The reduction of the sample is due to the fact that not all individuals answered all the questions. Table 2 below describes some summary statistics for the full sample as well as the restricted samples that we use when analyzing preferences for the four different spending categories. As can be seen from the table, politicians answered the survey questions to a greater extent than the voters (80% vs. 50%). The questions concerning preferences are answered less often by voters. Nevertheless, because the average preferences for local public spending and the personal characteristics of the voters are

nearly the same in the full sample of the survey as in our sample, our sample is quite likely not biased.

**Table 2:** Summary statistics: All the individuals included in the survey and our samples (1979 and 1991)

	Voters			Politicians		
	Mean	Std. dev.	No. of obs.	Mean	Std. dev.	No. of obs.
<b>Survey</b>						
Prof. for total spending	2.654	1.074	4,853	2.893	1.031	2,057
Schooling pref.	2.173	0.791	3,892	2.423	0.707	2,248
Childcare pref.	2.214	0.800	3,182	2.192	0.787	2,240
Social care pref.	1.636	0.764	2,812	1.928	0.711	2,119
Vote for left-wing	0.367	0.615	8,578	0.511	0.526	2,580
Education	0.375	0.484	4,963	0.557	0.497	2,295
Female	0.498	0.500	8,551	0.307	0.461	2,580
Age	44.7	16.8	8,551	54.1	12.2	2,580
Married	0.601	0.490	8,217	0.860	0.347	2,299
<b>Total spending sample</b>						
Prof. for total spending	2.659	1.077	4,055	2.896	1.032	2,023
Vote for left-wing	0.483	0.496	4,055	0.484	0.500	2,023
Education	0.393	0.488	4,055	0.559	0.497	2,023
Female	0.471	0.499	4,055	0.301	0.459	2,023
Age	45.0	16.2	4,055	56.2	11.3	2,023
Married	0.671	0.470	4,055	0.858	0.350	2,023
<b>Schooling sample</b>						
Schooling pref.	2.185	0.790	3,277	2.424	0.707	2,211
Vote for left-wing	0.441	0.497	3,277	0.488	0.5	2,211
<b>Childcare sample</b>						
Childcare pref.	2.224	0.796	2,675	2.194	0.787	2,205
Vote for left-wing	0.457	0.498	2,675	0.49	0.5	2,205
<b>Social care sample</b>						
Social care pref.	1.63	0.760	2338	1.931	0.711	2084
Vote for left-wing	0.447	0.497	2338	0.494	0.5	2084

**Notes:** The right-wing bloc is composed of the parties Ny demokrati, Moderata samlingspartiet, Folkpartiet, Centerpartiet and Kristen demokratisk samling. The left-wing bloc is composed of the parties Socialdemokraterna, Vänsterpartiet, Sveriges kommunistiska parti, Miljöpartiet - de gröna. *Female*=1 for females, 0 for males; *Married*=1 if married, 0 if single. *Education*=1 if the individual has more than two years of secondary schooling, 0 otherwise.



The sample used in the analysis of the preferences for specific public services are not exactly the same because voters tend to answer the preference questions regarding specific public services less often. Nonetheless, all three samples are representative (see Table 2).

## 5. Empirical considerations

In the empirical analysis, we estimate the following linear probability model:<sup>5</sup>

$$P(v_{ijt}^L = 1) = \beta \left( \left| \text{Pref}_{ijt} - \text{Pref}_j^R \right| - \left| \text{Pref}_{ijt} - \text{Pref}_j^L \right| \right) + \sum \alpha_k X_{ijt}^k + \phi_{jt} + u_{ijt}, \quad [4]$$

where

$$v_{ijt}^L = \begin{cases} 1 & \text{if individual } i \text{ in municipality } j \text{ votes left in election year } t \\ 0 & \text{if the individual votes right.} \end{cases}$$

$\left| \text{Pref}_{ijt} - \text{Pref}_j^R \right|$  and  $\left| \text{Pref}_{ijt} - \text{Pref}_j^L \right|$  are the absolute difference between the  $i$ th voter's preferences in municipality  $j$  in election year  $t$  ( $\text{Pref}_{ijt}$ ) and the median preferences of the right-wing and left-wing politicians in region  $j$  in election year  $t$  ( $\text{Pref}_j^R$  and  $\text{Pref}_j^L$ ), respectively.  $X_{ijt}^k$  is a set of  $k$  control variables that might affect both the voters' voting behavior and the difference between the voters' and the politicians' preferences;  $\phi_{jt}$  are municipal-specific constants that pick up unobserved municipal-specific variables that might affect both the voters' voting behavior and the difference between the voters' and the politicians' preferences. The empirical specification in equation [4] corresponds to the theoretical specification in equation [3]. Hence, if voters vote for the party whose preferences are closest to their own,  $\beta$  will be positive. We estimate the model in equation [4] both for general preferences and for preferences for the three different spending

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<sup>5</sup> We use the linear probability model to get easier and more direct interpretations of the parameter estimates. The conclusions do not change if we use a probit or a logit model instead.

categories (schooling, childcare and social care). In addition, we also estimate equation [4] by parties rather than by blocs. See the appendix for the empirical specification in this case.

Before turning to the results, there is one more thing that we need to consider. As mentioned in section 4, the preferences of the voters are measured at a different point in time than the preferences of the politicians. Furthermore, the questions are stated in such a way that the respondents relate their preferred level of spending and taxes to those that are in place when the survey is performed. If the tax rates and spending levels change between the survey directed to the voters and the survey directed to the politicians, we cannot compare the answers given by voters and politicians directly.<sup>6</sup> To solve this problem, we normalize the stated preferences with respect to the actual spending levels. More specifically, we first estimate the following equation using OLS:

$$\text{Pref}(J)_{ijt} = \gamma_t \text{Expenditure}(J)_{jt} + u_{it} . \quad [5]$$

We then use the estimated residuals from equation [5] as our measure of the voters' and the politicians' preferences for the locally provided services:

$$\text{Estimated}(\text{Pref}(J)_{ijt}) = \text{Pref}(J)_{ijt} - \hat{\gamma}_t \text{Expenditure}(J)_{jt} . \quad [6]$$

Hence, the estimated preferences are given by the unexplained variation in the stated preferences after controlling for the variation given by the expenditure levels. As can be seen from Table 3, the correlations between these estimated preferences and the answers from the respondents are highly correlated, specially for total spending and spending on schooling.

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<sup>6</sup> See Table A3 in the appendix for the summary statistics of the different expenditure categories and local tax rate in the years that the surveys were conducted.

**Table 3:** Correlation between observed and estimated preferences

	Voters			Politicians		
	Total	1979	1991	Total	1979	1991
Total spending	0.89	0.99	0.85	0.93	0.98	0.91
Schooling	0.91	0.92	0.93	0.92	0.92	0.93
Child care	0.78	0.65	0.86	0.78	0.68	0.85
Social care	0.71	0.69	0.72	0.66	0.57	0.71

In the empirical analysis, we estimate all models using both the actual answers (*the observed preferences*) and the answers estimated by equation [6] (*the estimated preferences*). Given that they are highly correlated, we do not expect to find different results when we use observed or estimated preferences. To account for the fact that we have an estimated regressor, we use bootstrap standard errors when drawing inferences about  $\beta$ .

## 6. Results

### 6.1 Baseline results

The aim of this paper is to investigate whether voters vote for the political bloc (or political party) that yields the closest match between the voters' and politicians' preferences. Hence, it is assumed that the voter calculates the distance between his own preferences and those of the right-wing bloc and compares this with the distance between his own preferences and those of the left-wing bloc. If the distance to the right-wing bloc is larger than the distance to the left-wing bloc, then the voter will vote for the left-wing bloc. Table 4 reports the results when testing this hypothesis using preferences for total local public spending. Column (i) shows the result using observed preferences and pooling the two years, whereas columns (ii) and (iii) estimate the model for the two elections separately. Because the responsibilities and the parties making up the two blocs changed between the two years, the effects may differ between the two years. Finally, columns (iv), (v) and (vi) do the same thing, but they take into account that politicians and voters answered the questions at different points in time. Therefore, they use estimated preferences instead.

**Table 4:** The effects of politicians' preferences on the probability of voting for the left-wing party: total local public spending

	Observed preferences			Estimated preferences		
	Both years	1979	1991	Both years	1979	1991
Relative distance in preferences	0.100 <sup>***</sup> (0.006)	0.001 (0.022)	0.109 <sup>***</sup> (0.006)	0.109 <sup>***</sup> (0.006)	0.001 (0.021)	0.119 <sup>***</sup> (0.006)
Education	-0.163 <sup>***</sup> (0.016)	-0.229 <sup>***</sup> (0.032)	-0.141 <sup>***</sup> (0.018)	-0.163 <sup>***</sup> (0.017)	-0.229 <sup>***</sup> (0.032)	-0.140 <sup>***</sup> (0.017)
Female	-0.010 (0.015)	-0.024 (0.028)	-0.010 (0.018)	-0.012 (0.016)	-0.024 (0.028)	-0.014 (0.016)
Age	0.006 <sup>**</sup> (0.003)	-0.004 (0.006)	0.011 <sup>***</sup> (0.003)	0.006 <sup>**</sup> (0.003)	-0.004 (0.005)	0.010 <sup>***</sup> (0.003)
Age2	-7.46e <sup>-5**</sup> (2.98e-05)	2.05e <sup>-05</sup> (5.79e-05)	-1.12e <sup>-4***</sup> (3.45e-05)	-7.12e <sup>-5**</sup> (3.04e-05)	2.05e <sup>-5</sup> (6.52e-05)	-1.07e <sup>-4***</sup> (3.48e-05)
Married	0.011 (0.017)	0.050 (0.034)	-0.012 (0.021)	0.008 (0.018)	0.050 (0.036)	-0.017 (0.020)
Constant	0.406 <sup>***</sup> (0.132)	0.616 <sup>***</sup> (0.168)	0.351 <sup>***</sup> (0.095)	0.477 <sup>***</sup> (0.070)	0.847 <sup>***</sup> (0.111)	0.361 <sup>***</sup> (0.075)
Observations	4,055	1,243	2,812	4,055	1,243	2,812
R-squared	0.135	0.100	0.161	0.139	0.100	0.169

**Note:** Standard errors in parentheses (bootstrap standard errors, 200 rep., when using estimated preferences, \*\*\* p<0.01, \*\* p<0.05, \* p<0.1). The models include municipality-specific effects.

The estimated coefficients indicate that voters do, in fact, vote for the political bloc that has preferences that are closest to those they hold themselves. However, the result is completely driven by the election in 1991; the parameter for 1979 is both statistically and economically insignificant. In addition, we conclude that the way we measure preferences (observed or estimated) does not really matter; the results are almost identical in the two different cases. Looking at the control variables, we see that the likelihood for voting for the left-wing bloc, holding the preferences of the voter constant, decreases with education.

As we mentioned in section 4, it might be the case that not all issues are equally important for the voters, but that voters consider some spending categories more salient, and the politicians' preferences for these spending categories matter more for their voting decisions. Therefore, we have estimated our model for three different spending categories: schooling, childcare and social care (see Table 5).

**Table 5:** The effects of politicians' preferences on the probability of voting for the left-wing party: different public spending categories

	Observed preferences			Estimated preferences		
	Both years	1979	1991	Both years	1979	1991
<b>Childcare</b>						
Relative distance in preferences	0.078*** (0.009)	0.083*** (0.015)	0.072*** (0.011)	0.088*** (0.010)	0.099*** (0.016)	0.079*** (0.012)
Observations	2,675	882	1,793	2,675	882	1,793
R-squared	0.076	0.107	0.066	0.076	0.107	0.065
<b>Social care</b>						
Relative distance in preferences	0.128*** (0.013)	0.084*** (0.026)	0.144*** (0.015)	0.153*** (0.017)	0.092*** (0.030)	0.177*** (0.020)
Observations	2,338	723	1,615	2,338	723	1,615
R-squared	0.126	0.138	0.128	0.123	0.136	0.125
<b>Schooling</b>						
Relative distance in preferences	0.026** (0.013)	0.025 (0.019)	0.025 (0.017)	0.027* (0.014)	0.024 (0.020)	0.026 (0.021)
Observations	3,277	1,041	2,236	3,277	1,041	2,236
R-squared	0.076	0.107	0.066	0.076	0.107	0.065

**Note:** Standard errors in parentheses (bootstrap standard errors, 200 rep., when using estimated preferences, \*\*\* p<0.01, \*\* p<0.05, \* p<0.1). The models control for a number of individual characteristics (education, female, age age<sup>2</sup>, married) as well as municipality-specific effects. See the appendix for the parameter estimates for the other coefficients.

Starting with the results for childcare presented in the top panel of the table, we can conclude that voters seem to vote for the politicians (political bloc) whose preferences are most in line with their own. The parameter estimates fall around 0.08 and are statistically significant at the one percent significance level, regardless of whether we use observed or estimated preferences and regardless of which year we use. The results for social care, presented in the middle panel of the table, are very similar to those for childcare, but with point estimates that are somewhat higher in all specifications. It can also be noted that when comparing the two elections, social care is considered a more salient issue for the voters in the 1991 election than in the 1979 election; the parameter estimate is almost twice as large in the latter election. Finally, from the results presented in the bottom panel of Table 5, the results for schooling are weaker than for childcare and social care. The parameter estimates are lower (around 0.026) and statistically significant only when both elections are pooled.

However, even though the statistical significance disappears when the model is estimated for the two elections separately, the point estimates remain almost identical. In sum, we conclude that there is indeed an effect of the relative distance between the voters' and the politicians' preferences on the voters' voting behavior.

Are the results found in Table 5 of any economic significance? One way to investigate this is to relate the coefficients to the variation in the explanatory and dependent variable. This is done in Table 6. From the table, we can learn that, for instance, an increase of one standard deviation in the relative distance of preferences to the right-wing bloc and the left-wing bloc, respectively, will increase the probability of voting for the left-wing bloc by 10.8 percentage points, moving the probability of voting left, on average, from approximately 0.48 to 0.59 (an increase of 23%). Relating this change to the variation in the probability of voting for the left bloc, one standard deviation in the ratio of preference differences will increase the probability of voting for the left-wing bloc by a standard deviation of 0.22. We believe this effect to be economically significant. Comparing the result for general preferences with those for preferences for schooling, childcare and social care, it seems an increase of one standard deviation in the relative distances in preferences between right-wing and left-wing blocs matters most for general preferences and for preferences on social care. For schooling, the effect seems to be of minor economic significance.

**Table 6:** Economic significance of the estimates

	Estimated coefficient ( $\hat{\beta}$ )	Std. dev. (Relative distance in pref. between right- wing and left- wing blocs)	Std. dev. (Probability of voting for left-wing bloc)	$\hat{\beta}$ * Std. dev.(Relative distance)	$\hat{\beta}$ * Std. dev.(relative distance)/ Std(vote=L)
Preferences for total spending.	0.100	1.077	0.496	0.108	0.217
Preferences for schooling	0.026	0.790	0.497	0.021	0.041
Preferences for childcare	0.078	0.796	0.498	0.062	0.125
Preferences for social care	0.128	0.760	0.497	0.097	0.196

## 6.2 Robustness check – estimations by party

Even though Sweden is a country with more than two political parties, we have thus far performed the analysis as if voters could choose between only two political blocs. Because it is very rare for any single party to win a majority of the seats at the local (or central) elections, parties typically form coalitions for a majority. These coalitions typically follow a left-right-wing scale, where it is possible to distinguish between parties in a left-wing coalition and those in a right-wing coalition. This fact, together with the finding in Figure 2 about the median preferences of politicians within different parties, makes us relatively confident that this is not a major shortcoming.

However, it is still the case that voters cast their vote for parties, not for blocs, even though they are probably aware that when voting for a right-wing party, they typically also vote in favor of the other parties in the right-wing bloc. Next, we will examine the sensitivity of our results by investigating whether voters vote for the party whose preferences are closest to their own compared to those of other parties. Conducting this analysis is not straightforward. We need to limit the sample of municipalities to those in which the same parties are running for office. Because there are some local parties in some municipalities

and because some of the central parties are very small, the sample is limited. We have chosen to focus on 1991 and the municipalities in which the following parties, and no others, ran for election: m, fp, c, kd, nyd, s, v and mp. Restricting the sample this way means that our sample is reduced to 967 voters living in only nine different municipalities. The results are thus less representative for the country than the results presented so far.<sup>7</sup>

Table 7 shows the result of a multivariate probit regression where the Social Democratic party (s) is the base category. We have chosen this party as a base category because it is the largest party. A negative point estimate for a party indicates that it is less likely that the voter will vote for that party if the distance between his own preferences and those of the party is larger than the distance between the voter's preferences and the preferences of the Social Democrats.

In reviewing the results, we see that the point estimates for the parties belonging to the right-wing bloc are all negative. For three parties (m, fp and kd), the point estimates are also statistically significant. For the parties belonging to the left-wing bloc, the point estimates are both statistically and economically non-significant (they are all close to zero).

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<sup>7</sup> When looking at the data in 1979, we only had a sample of 407 observations living in 8 municipalities. Estimating the model by party for that election, we did not find any statistically significant results.



**Table 7:** Results by party. Observed preferences for total local public spending, the 1991-election Base category: The Social Democratic Party (s)

	Right-wing bloc					Left-wing bloc	
	M	Fp	c	kd	nyd	v	mp
Relative distance in preferences	-0.463*** (0.079)	-0.454*** (0.099)	-0.185 (0.125)	-0.335** (0.137)	-0.063 (0.176)	0.009 (0.142)	-0.003 (0.137)
Education	0.999*** (0.187)	1.288*** (0.237)	0.738*** (0.285)	1.315*** (0.353)	0.439 (0.412)	1.260*** (0.341)	1.220*** (0.351)
Female	-0.335* (0.178)	0.165 (0.223)	-0.164 (0.270)	-0.279 (0.328)	-0.790* (0.412)	-0.708** (0.323)	0.158 (0.328)
Age	-0.104*** (0.034)	0.017 (0.044)	-0.089* (0.050)	-0.099* (0.060)	-0.035 (0.075)	0.143* (0.076)	0.063 (0.064)
Age <sup>2</sup>	0.001*** (0.000)	-0.000 (0.000)	0.001* (0.001)	0.001* (0.001)	0.000 (0.001)	-0.002** (0.001)	-0.001 (0.001)
Married	0.226 (0.215)	-0.091 (0.257)	0.257 (0.333)	0.126 (0.401)	-0.422 (0.466)	-0.123 (0.365)	-0.573 (0.358)
Constant	1.107 (0.760)	-1.647* (0.974)	-0.597 (1.153)	-0.789 (1.354)	-0.531 (1.609)	-4.620*** (1.613)	-4.251*** (1.490)
Observations	967						
R-squared	0.09						
Municipalities	9						

**Note:** \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. The models include municipality-specific effects.

Even though the much smaller sample size makes it difficult to draw strong conclusions based on the estimations by party, we believe that the results are in line with those from our baseline estimates: the preferences of the politicians matter for voters at the election booth.

## 7. Conclusions

In this paper, we have shown that voters take politicians' preferences into account when voting. More specifically, voters vote for the political bloc or political party whose preferences are most similar to their own preferences. This effect is not only statistically significant but is also economically significant. If the relative distance between the voter's own preferences for total local public spending for the right-wing bloc compared to the preferences of the left-wing bloc increases by one standard deviation, the likelihood that the

voter will vote for the left-wing bloc increases by almost 11 percentage points. Distinguishing between different spending categories (schooling, childcare and social care), we find that the preferences of the politicians for all of these services matter for voters' voting decisions. We also find that the voters in the 1979 and 1991 elections seem to have considered childcare and social care more salient issues than schooling.

The fact that politicians' preferences matter for voters' voting decisions is in line with the assumptions made in the citizen-candidate model, i.e. that voters will understand that politicians will implement their most preferred policy if elected and vote accordingly. Furthermore, the fact that we observe differences between the preferences of the two blocs is in line with the prediction from the citizen-candidate model with two candidates.

We do not observe the election platforms announced by the different blocs. Therefore, we cannot determine whether politicians also announce platforms in line with their preferences or if they announce the median voter's most preferred policy as predicted by the median voter model. However, we can say two things. First, if their election platforms are not in line with their preferences, voters still take the preferences of the politicians into account, indicating that their election platforms are not credible. Second, if politicians do announce policy platforms according to their preferences, there is no policy convergence. This finding contradicts the prediction from the median voter model that both parties will announce platforms according to the median voter's preferences.

To sum up, our findings are in line with the assumptions made in theoretical models that argue that politicians' preferences matter for policy outcomes. More specifically, our results indicate that the citizen-candidate model is a better description of political decision making than the median voter model.

## References

- Ahlin, Å. and E. Johansson (2001) "Individual Demand for Local Public Schooling: Evidence from Swedish Survey Data", *International Tax and Public Finance* 8, 254-271.
- Alesina, A. (1988), "Credibility and Policy Convergence in a Two-Party System with Rational Voters", *American Economic Review* 78, 796-805.
- Alesina, A., N. Roubini and G. Cohen (1997), *Political Cycles and the Macroeconomy*, MIT Press, Cambridge.
- Black, D. (1958), *The Theory of Committees and Elections*, Cambridge University Press, Cambridge.
- Besley, T. and S. Coate (1997), "An Economic Model of Representative Democracy", *Quarterly Journal of Economics* 112, 85-114.
- Downs, A. (1957), *An Economic Theory of Democracy*, Harper, New York.
- Ferreira, F. and J. Gyourko (2009), "Do Political Parties Matter? Evidence from the U.S. Cities", *The Quarterly Journal of Economics* 399-422.
- Lee, D., E. Moretti and M. Butler (2004), "Do Voters Affect or Elect Policies? Evidence from the US House", *The Quarterly Journal of Economics* 119, 807-860.
- Lewis, J. B. and G. King (1999), "No Evidence on Directional vs Proximity Voting", *Political analysis* 8, 21-33.
- Macdonald, S. E., O. Listhaug and G. Rabinowitz (1991), "Issues and Party Support in Multiparty Systems", *American Political Science Review* 85, 1107-1131.
- Osborne, M. and A. Slivinski (1996), "A Model of Political Competition with Citizen-Candidate", *Quarterly Journal of Economics* 111, 65-96.
- Pettersson-Lidbom, P. (2008), "Do Parties Matter for Policy Outcomes? A Regression-Discontinuity Approach", *Journal of the European Economic Association* 6, 1037-1056.
- Westholm, A. (1997), "Distance versus Direction: The illusory Defeat of the Proximity Theory of Electoral Choice", *American Political Science Review* 91, 865-883.
- Westholm, A. (2001), "On the Return of Epicycles: Some Crossroads in Spatial Modeling Revisted", *The Journal of Politics* 63, 436-481.

## Appendix A: Tables

**Table A1:** The Swedish parties

Name in Swedish	Abbr.	Ideological position	Vote share (%) in the central election 1979	Vote share (%) in the central election 1991
Moderata Samlingspartiet	m	Conservative	20.3	21.9
Folkpartiet Liberalerna	fp	Liberal	10.6	9.1
Centerpartiet	c	Non-socialist, Farmers	18.1	8.5
Kristdemokratiska Samhälls- Partiet	kd	Christian Democratic (conservative)	1.4	7.1
Ny Demokrati	nyd	Right-wing Populists	-	6.7
Miljöpartiet de gröna	mp	Green/New Politics	-	3.4
Socialdemokratiska Arbetar- Partiet	s	Social Democrats (labor)	43.2	37.7
Vänsterpartiet	v	Left-wing (former Communist)	5.6	4.5
Sveriges kommunistiska parti	sk	Communist	-	-
Arbetarpartiet kommunisterna	ak	Communist	-	-

**Table A2:** Vote share in the local elections

	Sample			Municipalities		
	Total	1979	1991	Total	1979	1991
Moderata samlingspartiet	19.99	15.38	22.10	21.28	16.86	23.34
Folkpartiet	10.08	9.12	10.52	10.98	9.84	11.52
Centerpartiet	15.94	24.15	12.18	11.58	18.92	8.17
Kristen demokratisk samling	4.00	1.48	5.16	4.38	2.17	5.41
Ny demokrati	1.63	0.00	2.38	2.43	0.00	3.57
Socialdemokraterna	40.18	46.57	37.26	40.46	46.03	37.86
Vänsterpartiet	4.41	2.87	5.12	5.41	5.29	5.46
apk+skp	3.76	0.43	5.28			
Miljöpartiet				3.48	0.90	4.68
Right-wing bloc	51.65	50.13	52.34	50.66	47.78	52.01
Left-wing bloc	48.35	49.87	47.66	49.34	52.22	47.99

**Table A3:** Summary statistics of the different expenditure categories and the local tax rate

	Mean	Std. dev.	Max	Min	No. of obs.	Mean	Std. dev.	Max	Min	No. of obs.
	Voters	<i>1979</i>					<i>1991</i>			
Schooling	6,921	1,000	876	5,333	25	7,479	1,009	9,618	5,666	28
Childcare	1,851	818	4,398	626	25	4,034	915	6,545	2,835	28
Social care	425	262	1,434	145	25	1,475	712	3,847	724	28
Local tax rate	16.0	1.2	18.2	13.8	25	17.0	2.8	30.3	14.3	28
Politicians	<i>1980</i>					<i>1993</i>				
Schooling	7,011	993	8,821	5,325	25	7,321	1014	9,476	5,534	28
Childcare	2,033	857	4,737	779	25	3,943	944	6,831	2,825	28
Social care	355	237	1,238	88	25	1,824	810	4,656	525	28
Local tax rate	16.0	1.2	18.2	13.8	25	19.5	2.5	30.3	16.2	28

**Table A4:** The effects of politicians' preferences on the probability of voting for the left-wing party: spending on schooling

	Observed			Estimated		
	Both years	1979	1991	Both years	1979	1991
Relative distance in preferences	0.026** (0.013)	0.025 (0.019)	0.025 (0.017)	0.027* (0.014)	0.024 (0.020)	0.026 (0.021)
Education	-0.162*** (0.018)	-0.228*** (0.034)	-0.140*** (0.021)	-0.162*** (0.019)	-0.228*** (0.036)	-0.140*** (0.021)
Female	0.017 (0.017)	-0.010 (0.030)	0.025 (0.021)	0.017 (0.016)	-0.010 (0.031)	0.025 (0.018)
Age	0.008** (0.003)	-0.004 (0.006)	0.014*** (0.004)	0.008** (0.004)	-0.004 (0.006)	0.014*** (0.004)
Age2	-1.05e-4*** (3.56e-05)	1.54e-5 (6.57e-05)	-1.55e-4*** (4.24e-05)	-1.04e-4*** (3.55e-05)	1.53e-5 (6.39e-05)	-1.55e-4*** (3.81e-05)
Married	-0.010 (0.021)	0.033 (0.039)	-0.033 (0.026)	-0.010 (0.021)	0.033 (0.039)	-0.033 (0.026)
Constant	0.229* (0.139)	0.520*** (0.178)	0.310*** (0.117)	0.507*** (0.091)	0.859*** (0.136)	0.375*** (0.086)
Observations	3,277	1,041	2,236	3,277	1,041	2,236
R-squared	0.076	0.107	0.066	0.076	0.107	0.065

**Note:** Bootstrap standard errors (200 rep.) in parentheses, \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Table A5:** The effects of politicians' preferences on the probability of voting for the left-wing party: spending on childcare

	Observed			Estimated		
	Both years	1979	1991	Both years	1979	1991
Relative distance in preferences	0.078 <sup>***</sup> (0.009)	0.083 <sup>***</sup> (0.015)	0.072 <sup>***</sup> (0.011)	0.088 <sup>***</sup> (0.010)	0.099 <sup>***</sup> (0.016)	0.079 <sup>***</sup> (0.012)
Education	-0.154 <sup>***</sup> (0.020)	-0.229 <sup>***</sup> (0.036)	-0.128 <sup>***</sup> (0.023)	-0.154 <sup>***</sup> (0.019)	-0.229 <sup>***</sup> (0.035)	-0.128 <sup>***</sup> (0.022)
Female	0.001 (0.019)	-0.049 (0.033)	0.025 (0.023)	0.001 (0.019)	-0.052 (0.032)	0.026 (0.022)
Age	0.011 <sup>***</sup> (0.004)	-0.006 (0.007)	0.019 <sup>***</sup> (0.005)	0.011 <sup>***</sup> (0.004)	-0.006 (0.007)	0.019 <sup>***</sup> (0.005)
Age2	-1.14e <sup>-4***</sup> (4.04e-05)	4.38e <sup>-5</sup> (7.32e-05)	-1.86 e <sup>-4***</sup> (4.84e-05)	-1.15e <sup>-4***</sup> (3.76e-05)	4.22e-05 (7.41e-05)	-1.86 e <sup>-4***</sup> (4.92e-05)
Married	-0.003 (0.023)	0.032 (0.044)	-0.028 (0.028)	-0.004 (0.024)	0.030 (0.043)	-0.029 (0.029)
Constant	0.263 <sup>*</sup> (0.148)	0.785 <sup>***</sup> (0.218)	0.253 <sup>*</sup> (0.134)	0.432 <sup>***</sup> (0.091)	0.813 <sup>***</sup> (0.147)	0.236 <sup>**</sup> (0.099)
Observations	2,675	882	1,793	2,675	882	1,793
R-squared	0.105	0.129	0.101	0.106	0.134	0.100

**Note:** Bootstrap standard errors (200 rep.) in parentheses, \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Table A6:** The effects of politicians' preferences on the probability of voting for the left-wing party: spending on social care

	Observed			Estimated		
	Both years	1979	1991	Both years	1979	1991
Relative distance in preferences	0.128 <sup>***</sup> (0.013)	0.084 <sup>***</sup> (0.026)	0.144 <sup>***</sup> (0.015)	0.153 <sup>***</sup> (0.017)	0.092 <sup>***</sup> (0.030)	0.177 <sup>***</sup> (0.020)
Education	-0.164 <sup>***</sup> (0.021)	-0.255 <sup>***</sup> (0.043)	-0.132 <sup>***</sup> (0.025)	-0.165 <sup>***</sup> (0.023)	-0.255 <sup>***</sup> (0.044)	-0.133 <sup>***</sup> (0.023)
Female	0.018 (0.020)	0.034 (0.037)	0.008 (0.024)	0.017 (0.022)	0.032 (0.039)	0.007 (0.023)
Age	0.007 <sup>*</sup> (0.004)	-0.009 (0.007)	0.014 <sup>***</sup> (0.005)	0.007 <sup>*</sup> (0.004)	-0.009 (0.007)	0.014 <sup>***</sup> (0.004)
Age2	-9.07e <sup>-5**</sup> (3.92e-05)	4.85e <sup>-5</sup> (7.33e-05)	-1.48e <sup>-4***</sup> (4.63e-05)	-9.21e <sup>-5**</sup> (4.27e-05)	4.88e <sup>-05</sup> (7.51e-05)	-1.50e <sup>-4***</sup> (4.77e-05)
Married	0.012 (0.024)	0.083 <sup>*</sup> (0.044)	-0.029 (0.029)	0.017 (0.023)	0.085 <sup>**</sup> (0.041)	-0.022 (0.027)
Constant	0.517 <sup>***</sup> (0.154)	0.658 <sup>***</sup> (0.230)	0.440 <sup>***</sup> (0.134)	0.480 <sup>***</sup> (0.092)	0.919 <sup>***</sup> (0.157)	0.322 <sup>***</sup> (0.111)
Observations	2,338	723	1,615	2,338	723	1,615
R-squared	0.126	0.138	0.128	0.123	0.136	0.125

**Note:** Bootstrap standard errors (200 rep.) in parentheses, \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

## Appendix B: Empirical specification, analysis by parties

$$\begin{aligned}
 P(v_{ijt} = p) = & \beta_m \left( \left| \text{Pref}_{ijt} - \text{Pref}_j^m \right| - \left| \text{Pref}_{ijt} - \text{Pref}_j^s \right| \right) + \\
 & + \beta_{fp} \left( \left| \text{Pref}_{ijt} - \text{Pref}_j^{fp} \right| - \left| \text{Pref}_{ijt} - \text{Pref}_j^s \right| \right) + \\
 & + \beta_c \left( \left| \text{Pref}_{ijt} - \text{Pref}_j^c \right| - \left| \text{Pref}_{ijt} - \text{Pref}_j^s \right| \right) + \\
 & + \beta_{kd} \left( \left| \text{Pref}_{ijt} - \text{Pref}_j^{kd} \right| - \left| \text{Pref}_{ijt} - \text{Pref}_j^s \right| \right) + \\
 & + \beta_{kd} \left( \left| \text{Pref}_{ijt} - \text{Pref}_j^v \right| - \left| \text{Pref}_{ijt} - \text{Pref}_j^s \right| \right) + \sum \alpha_k X_{ijt}^k + \phi_{jt} + u_{ijt}
 \end{aligned}$$

where  $p=m, fp, c, kd, v$ , and the base category is party  $s$ .

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