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**DETERMINANTS OF ELECTORAL OUTCOMES:  
A SIMPLE TEST OF MELTZER AND RICHARD'S  
HYPOTHESIS**



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## **Determinants of Electoral Outcomes: A Simple Test of Meltzer and Richard's Hypothesis**

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## **Determinants of Electoral Outcomes: A Simple Test of Meltzer and Richard's Hypothesis**

### **Abstract**

The present study aims to test Meltzer and Richard's (1981) hypothesis that lower-income individuals vote for candidates who favor higher taxes and more redistribution. Assuming that left-wing parties advocate a general increase in taxation, we estimate a vote function for the French Cantonal elections. We show clear-cut evidence that an increasing proportion of voters receiving social assistance raises the number of votes in favor of left-wing parties. This result highlights the importance of including redistribution aspects when estimating a vote function.

### **Keywords:**

Vote Function, Local Government, Redistribution, Party ideology

**JEL Classification:** D72; H20

## 1. Introduction

The present study aims to estimate a vote function model using data from the French local public sector. In decreasing scope of jurisdiction, the three levels of local government in France are the region (*région*), the department (*département*), and the municipality (*commune*). Our study has been focused at the departmental level and, more specifically, on the percentage of seats won by the left-wing parties in the departments' elections, so-called 'Cantonal elections'. Due to the many tasks assigned to these jurisdictions, the overall economic importance of the departments is considerable. In particular, the departments have been conferred responsibility for several welfare programs that substantially contribute to the size of the government (e.g., protection of single mothers and children, social assistance for the disabled, aid to pensioners and the elderly, social welfare for the unemployed). As such, the French departments provide a good testing ground for Meltzer and Richard's (1981) theoretical model of redistribution. The basic tenet of the model is that voting choices are based on the goal of maximizing own disposable income. If taxes are used to redistribute income, this assumption implies that the presence of inequalities should favor the emergence of left-wing governments. Our results actually support this idea. We will show that an increasing proportion of voters receiving social assistance raises the number of votes on the left. To our knowledge, this is the first paper that uses Meltzer and Richard's (1981) model of redistribution to justify the inclusion of redistribution variables in a vote function.

The outline of the article is as follows. Section 2 provides a description of the model and the data. Section 3 discusses the empirical strategy. Section 4 presents the estimation results. Section 5 concludes.

## 2. Model and data description

Our study analyses the electoral outcome of 90 French departments. Because of the availability of data, only two years (1997 and 1998) will be examined. To take into account the important

diversity and the high number of political parties at the departmental level, the focus is on a left-wing/right-wing confrontation. The empirical model is the following:

$$\begin{aligned}
 seatshare_{i,t} = & \alpha_0 + \alpha_1 \ln(guaranteed_{i,t}) + \alpha_2 \ln(children_{i,t}) + \alpha_3 \ln(elder_{i,t}) + \\
 & \alpha_4 \ln(handicap_{i,t}) + \alpha_5 \ln(dens_{i,t}) + \alpha_6 \ln(income_{i,t}) + \\
 & \alpha_7 \ln(taxshare_{i,t}) + \alpha_8 year98_t + \varepsilon_{i,t},
 \end{aligned} \tag{1}$$

where  $i$  and  $t$  stands for Department  $i$  and Year  $t$ , respectively. The new elections took place in 1998. The variable *seatshare* denotes the share of seats on the left in the department's council. Table 1 provides the partition used to construct this variable. The left-wing's share of seats can be very different from a department to another: 41% of the seats are on average on the left, with a minimum equal to 4% and a maximum equal to 95% (data source: newspaper *Le Monde*).

*[Table 1 approximately here]*

Following Meltzer and Richard (1981) and assuming that left-wing parties favor more redistribution, the endogenous variable is expected to increase with the number of social assistance beneficiaries. The variable *guaranteed* is strongly related to the unemployment rate of the jurisdiction. It represents the number of unemployed people per inhabitant that benefit from the minimum guaranteed income. The variables *elder*, *children*, and *handicap* represent the shares of elder people, children, and disabled persons that benefit from departmental welfare programs. It should be stressed that the number of social beneficiaries in the department depends on eligibility criteria defined by the national law. Consequently, our variables are not a function of the department's public policy and can be considered as exogenous in the model. In contrast, the amount of the aids is on the discretion of the departments (data source: *DREES*).

Our study also takes several control variables into account. The population density is denoted by *dens*. This variable is expected to have a negative impact on the endogenous

variable since, according to some authors, there might be a connection between income inequality and population density. For instance, more densely populated regions could create more opportunities for social advancement and could lead to more egalitarian societies (Sylwester, 2003). The mean taxable income of the department is also taken into account via *income*. The expected impact is uncertain since on the one hand, wealthier departments could be associated with a lower demand for redistribution but, on the other hand, could be synonymous with a higher level of inequalities. The variable *taxshare* represents the household tax share. It is defined as the share of household tax bases (tax on housing and property taxes) in the total tax bases of the department (tax on housing, property taxes and local business tax). In terms of taxation, left-wing governments should be more favorable towards a tax burden on business. Therefore, a higher tax share could be associated with a higher demand for left-wing parties. Lastly, the variable *year98* is a binary variable equal to 1 in 1998 and 0 in 1997, i.e., the coefficient  $\alpha_8$  represents the overall impact of the 1998 Cantonal elections, and other events as well, on the endogenous variable, ceteris paribus (data source: *DGCL*).

### 3. Empirical strategy

Since some unobservable and omitted heterogeneity as well as common characteristics among departments may exist, equation (1) could involve individual-specific effects. Three tests were implemented: the Breush Pagan Test (a Lagrange Multiplier Test) to compare the pooled-OLS estimator (H0) with the random effects estimator (H1), a Fisher Test to test the pooled-OLS estimator (H0) versus the fixed individual effects estimator (H1), and the Hausman Test to compare individual random effects (H0) with individual fixed effects (H1).

According to the results (see Table 2), individual random effects have to be taken into account in (1). In order to check the robustness of the estimations, we will present the pooled OLS estimations as well, using Cribari-Neto's (2004) approach for a heteroskedasticity consistent estimation of the covariance matrix. We will not focus, however, on the individual fixed effect estimator because some of our variables exhibit low variation over time and adding fixed effects could remove much of the time variation necessary for obtaining good coefficient estimates (Beck, 2001). We will include geographical dummies instead. This solution offers a

compromise between the Pooled-OLS estimator and the Fixed-effects estimator. We have regrouped the 90 departments into six areas, as shown in Table 3.

[Tables 2 and 3 approximately here]

#### 4. Estimation results

The estimation results are presented in Table 4. The four columns display the estimates for the Random-effects and Pooled-OLS estimators, with and without regional dummies, respectively. As we can see, the quality of fit (adjusted R<sup>2</sup>) ranges from 42.26% to 65.8%, a good result compared to other studies estimating vote functions (see for instance Lewis-Beck and Nandea, 2000). The random effects estimator coupled with regional dummies (second column) leads to the best quality of fit.

[Table 4 approximately here]

The estimates are relatively consistent with what we expected: the share of unemployed people receiving minimum wage (*guaranteed*) has a highly significant and positive impact on the endogenous variable. The estimated coefficient ranges from 0.157 to 0.230. This impact is not to be neglected: an increase in *guaranteed* from its minimum value (0.43%) to its maximum value (3.47%) will generate at least an increase of  $0.157 \ln(3.47/0.43) = 32.7$  percentage units in the endogenous variable. The coefficient of *children* also appears with a positive sign when significant, ranging from 0.077 to 0.129. The variable *elder* leads to a significant impact with the Pooled-OLS estimator (coefficient equal to 0.119). The impact of the variable *handicap*, however, is not significant.

The positive relationship between our interest variables (*guaranteed*, *children*, *handicap*, *elder*) and the endogenous variable can also be highlighted on a simple 2-dimension graphic. Figures 1 and 2 represent the best adjustment to the data estimated through OLS regression. One may see that the share of left-wing politicians in the council is strongly correlated with the number of social beneficiaries.

*[Figures 1 and 2 approximately here]*

The control variables lead to significant impacts as well. The *density* coefficient is significant and positive when regional dummies are included. This result suggests that high-density communities have a higher demand for left-wing parties. As expected, the tax share shows a significant and positive coefficient, ranging from 0.171 to 0.214. The variable *income* leads to a significant negative impact when regional dummies are in play. According to this result, wealthier departments should be associated with a lower demand for redistribution. Lastly, the dummy variable *year98* is strongly significant and positive, ranging from 10.5% to 11.4%. This positive relationship points out the considerable progression of the left-wing coalition in the 1998 Cantonal elections. There are two primary reasons for this phenomenon. First, the program of welfare reforms proposed by the right-wing Prime Minister Alain Juppé caused a social crisis in November and December 1995. The Prime Minister's unpopularity may have benefited the left-wing coalition. Second, the right-wing parties made different coalitions with the far right-wing during the first round of the 1998 cantonal elections. In reaction to these coalitions, the left-wing parties were able to mobilize more support from the electorate.

## **5. Conclusion**

Our study differs in many points from the existing literature on vote functions. First, previous studies have mainly focused on time series data sets and national elections while the present research examines a data set of sub-national governments. Sub-national data have the advantage of allowing significant variance to the variables, within a same institutional context. Second, only a few exogenous variables are generally included in the existing literature, mainly for lack of data, as opposed to our empirical study which examines a large set of variables.

Among others, our results emphasizes a positive relationship between the number of seats on the left in the council and variables such as the number of unemployed, elder and children



who receive welfare payments. Our study consequently gives support to Meltzer and Richard (1981): voters with low-income choose candidates who favor higher taxes and more redistribution. This result highlights the importance of including redistribution aspects when estimating a vote function.

### **Acknowledgment**

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## Appendix

**Table 1**

Summary statistics of the variable *seatshare*.<sup>a</sup>

Political parties at the department level	Min (whole sample)	Max (whole sample)	Mean (year 1997)	Mean (year 1998)	Mean (whole sample)
<b>Left-wing political parties</b>					
Convention for a Progressive Alternative; French Communist Party; Alternative Democracy; Socialism; Citizens' Movement; Republican and Citizen Movement; Association for Democracy and Development; Ecology Generation; The Greens; Socialist Party; Left Radical Party; Left Radical Movement; Independent Ecological Movement.	4.12%	95.45%	35.84%	46.83%	41.33%
<b>Right-wing political parties</b>					
Reformists Movement; International Democrat Union; Union for French Democracy; Rally for the Republic; National Center of Independents and Peasants; Movement for France; National Front.	95.88%	4.55%	64.16%	53.17%	58.67%

<sup>a</sup> Share of seats held in the 90 considered departments before and after the 1998 Cantonal elections. Some of the candidates were independent, i.e., did not belong to a political party. However, we knew the ideology of these independent candidates, i.e., Far left-wing, Left-wing or Right-wing.

**Table 2**

Preliminary tests

	Statistic	<i>p</i> -value
<b>Breusch Pagan Test</b>	72.15	2.2e-16
<b>Fisher Test</b>	21.23	2.2e-16
<b>Hausman Test</b>	15.22	0.054

**Table 3**

Geographical dummies.

Area	Regions
<b>West</b>	Bretagne, Basse-Normandie, Pays de la Loire, Poitou-Charentes.
<b>North</b>	Nord-Pas-de-Calais, Haute Normandie, Picardie, Ile-de-France, Picardie.
<b>East</b>	Champagne-Ardenne, Lorraine, Franche-Comté.
<b>Center</b>	Centre, Bourgogne, Auvergne.
<b>South-West</b>	Limousin, Aquitaine, Midi-Pyrénées.
<b>South-East</b>	Rhône-Alpes, Provence-Alpes-Côte d'Azur, Languedoc-Roussillon.

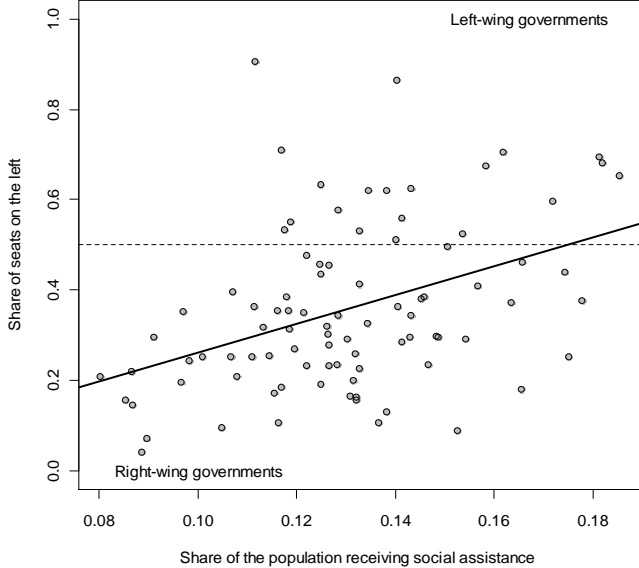
**Table 4**  
Econometric analysis of departments' ideology.<sup>a</sup>

	Individual random effects	Random effects with regional dummies	Pooled OLS estimator	Pooled OLS with regional dummies
<i>intercept</i>	4.255* (2.451)	5.516*** (3.344)	3.661* (2.569)	5.234*** (4.299)
<i>ln(guaranteed)</i>	0.230*** (4.559)	0.165*** (3.324)	0.220*** (5.192)	0.157*** (4.265)
<i>ln(children)</i>	0.029 (0.573)	0.090. (1.701)	0.077. (1.734)	0.129** (3.222)
<i>ln(elder)</i>	0.044 (1.086)	0.026 (0.656)	0.119* (2.154)	0.079 (1.539)
<i>ln(handicap)</i>	0.037 (0.630)	0.029 (0.510)	-0.097 (-1.422)	-0.077 (-1.396)
<i>ln(dens)</i>	0.022 (1.021)	0.053* (2.139)	0.022 (1.526)	0.052*** (4.028)
<i>ln(income)</i>	-0.236 (-1.153)	-0.405* (-2.086)	-0.185 (-1.041)	-0.389* (-2.482)
<i>ln(taxshare)</i>	0.214* (2.057)	0.173. (1.730)	0.203** (2.698)	0.171* (2.567)
<i>year98</i>	0.105*** (10.81)	0.112*** (11.73)	0.106*** (4.348)	0.114*** (5.121)
<i>West</i>		-0.105* (-2.054)		-0.102** (-3.225)
<i>North</i>		-0.028 (-0.447)		-0.021 (-0.638)
<i>East</i>		-0.036 (-0.633)		-0.038 (-0.915)
<i>Centre</i>		0.006 (0.128)		0.016 (0.448)
<i>South-West</i>		0.153** (3.241)		0.151*** (3.460)
<b>Number of obs.</b>	180	180	180	180
<b>Multiple R-Squared</b>	0.624	0.658	0.426	0.549

<sup>a</sup> t value in parentheses.

\*\*\*, \*\*, \* and . indicate significance at 0.1%, 1%, 5% and 10% level, respectively.

**Figure 1**  
Ideology and number of social beneficiaries (Year 1997).



**Figure 2**  
Ideology and number of social beneficiaries (Year 1998).

