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Some further estimations for: Voting and economic factors in French elections for the European Parliament

Antoine Auberger

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Abstract The purpose of this note is to complete the estimates made in Auberger (2012) for French presidential elections. We study the influence of the local unemployment on the vote for French presidential elections. We build another variable taking into account the responsibility of the incumbent President for the economic situation after a cohabitation period. We also make estimates for the second-round vote of French presidential elections (without the 2002 French presidential election or with an estimated vote for this election). We show that over the 1988-2007 period (without 2002), it is not necessary to take into account the influence of cohabitation periods on the responsibility of the government in relation to the economic situation.

Keywords Vote functions · French elections · European Parliament · Election forecasting · Local unemployment

JEL Classification C23 · C33 · C53 · D72

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In a recent article published in this review (2012), we especially studied the influence of the local unemployment rate on the vote for the moderate Left in French elections for the European Parliament (EMP), in the first round of French legislative elections, and in the first round of French presidential elections.

The estimations for French elections for the European Parliament (1984-2009) were very stable but the estimations for French legislative elections (1988-2007) were less stable (the estimated coefficient for the DUNEMNL variable was equal to -2.84 over the 1986-2007 period and was equal to 1.86 over the 1986-2002 period).

This note has for objective to complete the estimations made for French presidential elections. When we studied the vote for the moderate Left in the first round of French presidential elections, we saw that the estimated coefficient for the DUNEMMLCO variable was equal to -9.03 while that of the DUNEMML variable was equal to -3.14 (the difference is very high).¹ We also noticed that, over the 1988-2002 period, the estimated coefficient of the DUNEMMLCO variable was negative (expected sign) and equal to -5.54; that of the DUNEMML variable was positive and significantly different from 0 at the level of 1 %.² Over the 1988-1995 period, the estimated coefficient of the DUNEMML variable was negative (expected sign) and significantly different from 0 at the level of 1 % while it was not the case for the estimated coefficient of the DUNEMMLCO variable (positive sign and significantly different from 0 at the level of 1 %). These results showed the lack of stability for the estimations in the first round of French presidential elections with the DUNEMML or DUNEMMLCO variable.

We noticed that the choice of the dependent variable (moderate Left) is more difficult for the first round of French presidential elections because, for the 2002 French presidential election, the percentage of vote obtained by the extreme Left was higher than for other elections.³ It is important to study in addition to the vote in the first round, the vote for the Left in the second round of French presidential elections.⁴ We shall also make estimations with a distinct variable that Auberger (2012) used (DUNEMMLCOA independent variable) to take into account the influence of the cohabitation periods on the responsibility of the government in relation to the economic situation.

The DUNEMMLCOA variable⁵ is interesting because for the 1988 and 2002 French presidential elections, giving the incumbent President (left-wing in 1988 and right-wing in 2002) responsibility for the economic situation during a cohabitation period if he was a candidate for re-election is an assumption which seemed too strong and which did not reflect the 1988 French presidential election.⁶ With the DUNEMMLCOA variable, we supposed that for the 1995 French presidential election (the incumbent President, who is not a candidate for

¹ A vote function of the form: $VOTE_{ML1} = \alpha_0 + \alpha_1 DUNEMNL_t + \alpha_2 DUNEMNL_t \times COHAB_t$ (COHABA or COHABB) + $u_i + \varepsilon_{it}$ was estimated. We obtain $\hat{\alpha}_2 > 0$ (expected sign) but $\hat{\alpha}_2 > |\hat{\alpha}_1|$ (this is not the expected result but this result is consistent with the estimates of table 2).

² The decrease of the local unemployment rate in 44 departments did not lead to an increase in the first-round vote for the moderate Left (a decrease in the local unemployment rate in 37 departments and stability in 15 departments).

³ The average of the first-round vote received by the extreme Left is equal to 6.06 % for French presidential elections, is equal to 3.39 % for the EMP elections and is equal to 2.09 % for French legislative elections.

⁴ In the EMP elections, there is only one round; in French legislative elections, there are two rounds but the first round is very important because some candidates are elected in the first round.

⁵ When we study the first-round vote for the moderate Left over the 1988-2002 period, we notice that the estimated coefficient of the DUNEMMLCOA variable is negative (expected sign) but is not significantly different from 0 at the level of 10 %; over the 1988-1995 period, the estimated coefficient of the DUNEMMLCOA variable is negative and significantly different from 0 at the level of 5 %.

⁶ Victory of the Left (incumbent President) with a little increase over one year in the national unemployment rate.

re-election after a cohabitation period), the government (right-wing Prime Minister) was responsible for the economic situation; while with the DUNEMMLCO independent variable, we supposed that the President and the Prime Minister share responsibility for the economic situation (no influence of the local unemployment rate on the vote for the Left).

We find in table 1 some data for the vote in French presidential elections (first and second round) and for the national unemployment rate.

Table 1 Vote and unemployment in presidential election

Election	VOTEML1	VOTEWL1	VOTEL2	DUNEMN	DUNEMNL
1988	46.72	49.13	53.98	0.1	-0.1
1995	35.28	40.65	47.32	-0.1	0.1
2002	32.07	42.69		-0.4	-0.4
2007	30.25	36.09	46.68	-0.7	0.7

We noticed that for the 1995, 2002 and 2007 French presidential elections, the percentage of the vote obtained by the moderate Left was weak. With the increase in the first-round vote for the extreme Left (especially in the 2002 French presidential election) and first-round vote for the National Front⁷ (since the 1988 French presidential election), it also seemed important to examine the vote for the Left in the second round of French presidential elections.

Table 2 gives the estimations for the first-round vote for the moderate Left in French presidential elections:⁸

Table 2 Estimates of vote (moderate Left. first round)

Variable	ML1(a)	ML1(b)	ML1(c)
	1988-2007	1988-2007	1988-2007
Constant	36.18 (77.99)**	38.43 (69.07)**	37.62 (69.34)**
DUNEML _{it}	-3.14 (-4.38)**		
DUNEMMLCO _{it}		-9.03 (-10.24)**	
DUNEMMLCOA _{it}			-9.81 (-9.89)**
N	384	384	384
Adj. R ²	0.05	0.31	0.26
MAEN	6.09	3.89	4.76
MAEL	6.36	5.29	5.63

Common notes for Tables 2, 3, and 4: **Significant at 1% level.

MAEN: mean absolute error averages at the national level.

MAEL: mean absolute error averages at the local level.

The ML1(b) estimate has better statistical indicators than the ML1(a) and ML1(c) estimates.⁹ We noticed a very important difference between the estimated coefficient of the

⁷ A part of the voters for the National Front are former voters of the moderate Left.

⁸ We find the ML1(a) and ML1(b) estimates in Auberger (2012).

DUNEML independent variable and those of the DUNEMLCO and DUNEMLCOA independent variables.¹⁰

For French presidential elections, it can be more interesting to make estimations using as dependent variable the vote for the Left in the second round (VOTEL2 variable). Tables 3 and 4 give these estimations:¹¹

Table 3 Estimates of vote (moderate Left. second round)

Variable	L2(a)	L2(b)	L2(c)
	1981-2007 (without 2002)	1981-2007 (without 2002)	1981-2007 (without 2002)
Constant	50.40 (101.59)**	50.15 (100.62)**	50.51 (98.13)**
DUNEML _{it}	-5.27 (-7.58)**		
DUNEMLCO _{it}		-3.86 (-5.25)**	
DUNEMLCOA _{it}			-5.49 (-7.01)**
N	288	288	384
Adj. R ²	0.65	0.60	0.64
MAEN	2.13	2.66	2.25
MAEL	3.05	3.24	3.08

The L2(c) estimate has better statistical indicators than the L2(b) estimate but the statistical indicators of the L2(c) estimate are slightly less satisfactory than those of the L2(a) estimate; thus, according to these estimates, we do not show the relevance to take into account the responsibility for the economic situation of the incumbent President when he is a candidate for re-election after a cohabitation period (the economic responsibility is shared with the Prime Minister. and thus there is no influence of the economic situation on the vote).¹²

⁹ At the beginning of this note, we showed the instability of the estimations obtained for the first-round vote of French presidential elections, and in particular for the estimates with the DUNEMLCO variable.

¹⁰ A vote function of the form: $VOTEL2 = \alpha_0 + \alpha_1 DUNEMNL_t + \alpha_2 DUNEMNL \times COHAB_t$ (COHABA or COHABB) + $u_i + \varepsilon_{it}$ was estimated. Over the period 1988-2007 (without 2002), we obtain $\hat{\alpha}_2 > 0$ (expected sign) but $\hat{\alpha}_2$ is not different from 0 at the statistical level of 10 % (this is not the expected result but this result is consistent with the estimates of table 3).

¹¹ We give the priority to the results of table 3, because for the results of table 4, we used an estimate for the result of the second-round vote of the 2002 French presidential election (there was no second round in the 2002 French presidential election between the moderate Left and the moderate Right but a duel between the moderate Right and the extreme Right).

¹² It seems preferable to use the DUNEML or DUNEMLCOA independent variable because over the 1988-1995 period, the estimated coefficients obtained for the DUNEML and DUNEMLCOA variables are negative (expected sign) and significantly different from 0 at the level of 1 % while that of the DUNEMLCO variable is positive and significantly different from 0 at the level of 1 %.

Table 4 Estimates of vote (moderate Left. second round)

Variable	L2(d)	L2(e)	L2(f)
	1988-2007 (with 2002)	1988-2007 (with 2002)	1988-2007 (with 2002)
Constant	49.25 (109.75)**	49.99 (104.70)**	49.90 (104.21)**
DUNEML _{it}	-1.98 (-4.46)**		
DUNEMLCO _{it}		-3.13 (-6.15)**	
DUNEMLCOA _{it}			-4.54 (-6.93)**
N	384	384	384
Adj. R ²	0.63	0.65	0.67
MAEN	2.24	2.18	1.95
MAEL	2.78	2.66	2.64

Notes: For the L2(c) and L2(d) estimates, we use an estimate for the second round of the 2002 French presidential election. An estimated vote (49.06 %) has been obtained with a vote function of the first round to the second round over the 1988-1995 period.

The statistical indicators of the L2(f) estimate are slightly more satisfactory than those for the L2(d) and L2(e) estimates.¹³ These statistical indicators are comparable to those of the estimates obtained over the 1988-2007 period (without 2002) (table 3).

The results showed that if we study the vote in the second round of French presidential elections over the 1988-2007 period (without 2002), the influence of unemployment on the vote for the Left is much greater than for the vote for the Left in the first round of legislative elections (1986-2007), and French elections for the European Parliament (1984-2004 and 1984-2009); moreover we did not show the relevance to take into account the influence of the cohabitation periods. On the other hand, over the 1988-2007 period (with 2002), it was interesting to take into account the cohabitation periods and, in that case, we showed that the influence of unemployment on the vote for the Left was greater than for the vote for the Left in the first round of legislative elections (1986-2007), and French elections for the European Parliament (1984-2004 and 1984-2009).^{14,15} We showed that the statistical indicators of the estimates obtained by studying the second-round vote of French presidential elections were much more satisfactory than those obtained with the estimate for the first-round vote of French presidential elections.¹⁶

¹³ A vote function of the form: $VOTEL2 = \alpha_0 + \alpha_1 DUNEMNL_t + \alpha_2 DUNEMNL \times COHAB_t$ (COHABA or COHABB) + $u_i + \varepsilon_{it}$ was estimated. Over the period 1988-2007 (with 2002), we obtain $\hat{\alpha}_2 > 0$ (expected sign) but $\hat{\alpha}_2 > |\hat{\alpha}_1|$ (this is not the expected result but this result is consistent with the estimates of table 4).

¹⁴ We remind you that we give priority to the results obtained for the second-round vote for the Left without taking into account the 2002 French presidential election. Over the 1988-2002 period, the estimated coefficient of the DUNEML variable, is positive but is not significantly different from 0 at the level of 10 % because there was a decrease in the local unemployment rate in numerous departments but which do not lead to a victory of the Left; and the estimated coefficients of the DUNEMLCO and DUNEMLCOA variables are negative (respectively equal to -1.48 and -4.39) and significantly different from 0 at the level of 5 %.

¹⁵ In that case, if we do not take into account the influence of the cohabitation periods, the influence of unemployment on the vote for the Left is smaller for French presidential elections than for legislative elections and is comparable to that of the French elections for the European Parliament.

¹⁶ With always the same reserve for the estimates obtained for the second-round vote over the 1988-2007 period (with 2002).

Appendix: Definition of variables and sources of the data

Variable	Definition and source
VOTEML1	Share of vote received by the moderate Left in the first round of French presidential elections
VOTEWL1	Share of vote received by the whole Left in the first round of French presidential elections
VOTEL2	Share of vote received by the Left in the second round of French presidential elections
DUNEMN	Difference between the national unemployment rate of December of the year preceding the elections and that of December of the previous year
DUNEM	Difference between the local unemployment rate of December of the year preceding the elections and that of December of the previous year
DUNEML	DUNEML = DUNEM when the Left is the parliamentary majority and DUNEML = -DUNEM when the Left is the parliamentary opposition
DUNEMLCO	DUNEMLCO = -DUNEML = DUNEM when the left-wing incumbent President is a candidate for re-election after a cohabitation period (1988), DUNEMLCO = 0 when the left-wing incumbent President is not a candidate for re-election after a cohabitation period (1995), DUNEMLCO = -DUNEML = -DUNEM when the right-wing incumbent President is a candidate for re-election after a cohabitation period (2002), DUNEMLCO = DUNEML = -DUNEM when the Left is in the parliamentary opposition (2007)
DUNEMLCOA	DUNEMLCOA = 0 when the left-wing incumbent President is a candidate for re-election after a cohabitation period (1988), DUNEMLCOA = DUNEML = -DUNEM when the left-wing incumbent President is not a candidate for re-election after a cohabitation period (1995), DUNEMLCOA = 0 when the right-wing incumbent President is a candidate for re-election after a cohabitation period (2002), DUNEMLCOA = DUNEML = -DUNEM when the Left is in the parliamentary opposition (2007)
	<i>INSEE</i>
COHABA	COHABA = 1 en 1988, 1995, and 2002, and 0 in 2007
COHABB	COHABB = 1 in 1988 and 2002, and 0 in 1995 and 2007

Note: The DUNEMLCO and DUNEMLCOA variables can be used with (tables 2 and 4) or without (table 3) the 2002 French presidential election.

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