

Facchini, François; Melki, Mickaël

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What Moves Political Ideology? An Economic Analysis of Electoral Volatility in France Since 1889

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François Facchini
Mickaël Melki

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Abstract

The theory of economic voting has extensively explored the influence of national economic conditions on votes for the incumbent party during elections. Such literature has never, however, explored the potential effects of economy on other types of voting swings in the sense of change in votes for non-governing parties. This is owed to the limitations of the theory of economic voting, which we attempt to remedy by suggesting a more comprehensive theoretical framework based on ideological voting. From an empirical point of view, investigating the total electoral volatility appears an appropriate means to test the determinants of the votes for all parties. Using time-series data on 46 democratic elections held in France from 1889 to 2011, we provide evidence that the total electoral volatility has been determined by specific economic determinants that differ from the ones influencing the vote share of the incumbent. Another finding is that the voters' punishment of the incumbent at the heart of the theory of economic voting explains only a marginal part of total electoral volatility.

JEL-Code: D720.

Keywords: electoral volatility, economic voting, ideology, justification cost.

François Facchini

*Center of Economics / House of Economic
Sciences / University Paris 1
106 – 112 boulevard de L'Hôpital
France – 75647 Paris cedex 13
facchini@univ-paris1.fr*

Mickaël Melki

*Center of Economics / House of Economic
Sciences / University Paris 1
106 – 112 boulevard de L'Hôpital
France – 75647 Paris cedex 13
Mickael.Melki@malix.univ-paris1.fr*

1 INTRODUCTION

Ever since the seminal work of Kramer (1971), a large body of literature on economic voting has explored the impacts of macroeconomic changes on incumbent support in elections. According to the hypothesis on government responsibility for national economic conditions, voters tend to punish or reward the incumbent on the basis of their economic performance. The responsibility hypothesis has been extensively debated by this volume of literature in order to discover which party, in a multi-party system with coalitions, is held responsible by voters and to what extent candidates of the governing majority could be considered as incumbents in different elections, such as local elections (Grier and McGarrity, 1998). As Nannestad and Paldam (1994) noted in their literature review, the responsibility pattern only makes sense for governments that actually rule – as in the case of the USA and the UK – but not for other countries where minority governments have little control over the economy. In the theory of economic voting, it is also implicitly assumed that economic factors affect only government popularity whereas the popularity of opposition parties is influenced by political factors, most often missing in models (Nannestad and Paldam, 1994, p. 218). In brief, the theory focuses on the voting pattern for only a few parties in government and, within this theoretical framework, no work investigates the possible impacts of the economy on the votes for other parties.

For their part, political scientists have focused on the determinants of electoral instability of party system or total electoral volatility, measured as an index of the volatility of votes for all the parties from one election to another. This phenomenon has traditionally drawn considerable attention for at least three reasons³. First, electoral stability mirrors the process of conflict encapsulation and democracy institutionalization (Bartolini and Mair, 1990). Second, electoral volatility epitomizes the vitality or competitiveness of a political system, that is to say its ability to make possible new winning alternatives (Dassonneville and Hooghe, 2001). Third, electoral volatility reflects the emergence of a new kind of voter, independent of political parties, the ‘swing voter’ (Dalton, 2006). The few studies that have examined the impacts of economic conditions on total electoral volatility tend to assume that economic performances affect volatility through votes cast for the incumbent (Mainwaring and Zoco 2007; Nooruddin and Chiiber, 2008). Economic variables were included in the models only from the perspective of economic voting. Therefore they leave unanswered the

³ For empirical literature on electoral volatility in Western democracies, see : Bielasiak (2002), Mainwaring and Torcal (2006), Rose and Munro (2003), Shamir (1984), Dalton et al. (2000), Mair (2005), Drummond (2002), Birch (2003), Lachat (2007).

question of whether economic conditions can entail other types of voting behaviours than economic voting and more generally the question of the voting patterns for non-governing parties.

The limitations of the theory of economic voting cause both an empirical and a theoretical problem. From an empirical perspective, the theory has received limited support and provides no clear answers (Alesina, Londregan and Rosenthal, 1993; Chappell and Suzuki, 1993; Anderson, 2007 for a critical analysis of the literature). Moreover, the theory accounts for only a limited part of electoral behaviour because, whatever the economics are, volatile voters represent only a limited part of the total electorate, for instance 50% for an advanced democracy like the French one (Cautrès and Muxel, 2009, p.46). From a theoretical perspective, by reducing the vote to its instrumental dimension, the theory of economic voting is unable to explain the inertia of voting patterns and votes for non-governing parties, to whom the responsibility hypothesis cannot be applied. Indeed, according to the theory, voters incur only economic costs when voting. They incur no psychological costs of self-contradiction of ideological inconsistency when changing their votes, for instance, from a rightwing to a leftwing party. Under these conditions, voters are never attached to a party in the sense that they do not need to justify their choice. The absence of ‘justification costs’ makes the cost of volatility nil for voters. On the contrary, taking into account all the costs of voting suggests that voting for the left when having voted for the right at the previous election is costly for voters and can thus lead them to avoid doing so even though they have an interest in it. Therefore, taking into account the ‘justification costs’ in voting theory allows a better understanding of how and when voters change their vote.

Faced with the limitations of the theory of economic voting, the present paper tries to explain change in voting pattern with a theory of ideological voting that takes into account the justification costs of voting. We interpret electoral volatility as a mirror of voters’ ideological instability and attempt to explain it by economic or political events that modify the justification costs of voters’ ideology. Ideological change can be accounted for by the revision of the previous patterns of interpretation that are not consistent in the face of new information. If new information refutes old ideologies, electoral volatility is fostered. Therefore, the article raises the following two questions. First, what are the determinants of electoral volatility? In other words, which events affect ideological change? Second, to what extent the determinants of total electoral volatility differ from the determinants of the punishment of the incumbent?

To address these issues, we use time-series data on 46 democratic elections that took place in France from 1889 to 2011, the longest period ever studied in multivariate analyses of

electoral volatility. The French case is particularly relevant for at least three reasons. First, the study of electoral volatility requires a multi-party system with several non-governing parties. Most cases studied in the literature on economic voting have traditionally focused on the U.S. (Kramer, 1971; Mueller, 2003) and the U.K. (Goodhart and Bhanasali, 1970), two bi-party systems, and on Switzerland (Schneider, Pommerehne and Frey, 1981), where the government is systematically a coalition of all parties. Therefore the French multi-party system with an identifiable opposition appears an appropriate case for studying both economic voting and total electoral volatility. Second, France is particularly well-adapted for a time-series analysis, as it provides one of the longest stable democratic periods with the universal male suffrage adopted in 1848 and the establishment of the Third Republic in 1870. In fact, no study of electoral volatility exists on the very long run, except that by Bartolini and Mair (1990) on the period 1885-1985 for western democracies (but only after 1920 for France). Third, as Mair (1993, p.123) observed, adopting a long-term approach allows mitigation of some findings that would be relevant only for short and recent periods, such as the sudden increase in volatility since the 1970s. Therefore, this long-term approach is an opportunity to take part in the debate on the emergence of a volatile ‘swing voter’ in place of the traditional partisan voter.

The main results of the present study are that electoral volatility in France since 1889 has depended on the traditional socio-political variables described in the literature and on the variation in the growth rate of the income per capita. However, the vote share of the incumbent does not depend on the economic growth but on unemployment. This supports the hypothesis of another type of voting shift than the pure economic voting. That tends to give credence to our theory of ideological voting in addition to a pure economic voting.

The rest of the article is structured as follows. Section 2 develops the theoretical framework. Section 3 presents the data. The empirical strategy is described in Section 4. Section 5 provides the empirical results. Section 6 concludes.

2 AN ECONOMIC THEORY OF ELECTORAL VOLATILITY

Our explanation of electoral volatility is based on a theory of ideological change. The basic idea of the article is that a voter confirms his vote as long as its justification costs are low. This implies that no event occurs and calls into question the underlying justification of his beliefs and values system. Ideology is defined here as the justifying part of this beliefs system. Volatility occurs when ideologies which justify political choices give birth to a phenomenon of ‘cognitive dissonance’ in the sense of Festinger (1957).

According to the theory of cognitive dissonance, the individual, facing new information not consistent with her beliefs system, is placed in a state of self-contradiction. To recover a state of cognitive consonance, the individual can engage in a rationalization process (Brady, Clark and Davis, 1993, p.37; Bronner, 2006, p.17). She seeks to adapt her beliefs system to new information. Yet this process is not without costs. It can explain both the inertia and the volatility of electoral choices. In this sense, electoral volatility mirrors the process of rationalization engaged in by voters. Thus volatility increases with the costs to justify past choices and thus the underlying ideologies. Individuals are led to revise their judgement to avoid having a false representation of the world. They need a 'successful or true representation of the world' (Radnitzky, 1980, 1987; Radnitzky and Bernholz, 1987). An appropriate representation limits uncertainty and improves the quality of expectation. In this sense, it is a source of efficiency. The revision or rationalization of the ideology is all the more possible as the number and range of dissonances are high.

What causes variation in the justification costs of voters' ideologies? Underlying cognitive dissonance is an event that creates discontinuity for a voter. This event can contradict, weaken and make obsolete his political ideology. It can be internal or external. Inconsistency is a cause of internal events, such as the paradox of Evil (Denzau and North, 1994, p.25). It places individuals in a crisis of sense (Denzau and North, 1994, p.25). Mental experiment is another kind of internal event.

Conversely, external events can be civil wars (e.g. the Glorious Revolution in England in 1688), military defeats, revolutions (e.g. the French Revolution of 1789, the Russian Revolution in 1917, the Meiji Revolution in 1868), breakdowns (e.g. Eastern Europe and the USSR 1989), or military coups (e.g. Chile 1971). They can be of different magnitude and are assumed to be the cause of sudden institutional changes (Williamson, 2000, p.598) because they create generalized dissonance. Such events can be decisive in terms of electoral behaviors because they confirm or refute the ideologies of a significant part of the electorate.

Whether internal or external, these events call into question voters' political ideologies, increase their justification costs and lead them to revise their beliefs. The robustness of an ideology depends on its capacity to account for new facts and to make them consistent with an actual beliefs system. Electoral volatility is all the higher as voters' political ideologies are weak, not robust. On this basis, it is possible to assume that major social, economic and national or international political crises are at the root of variation in the justifications costs of earlier ideologies. In times of crisis, voters are led to change their votes when facing situations of social and economic unrest. Under these conditions, the success and failure of

alternative political systems can also affect the justification costs of actual ideologies and foster electoral volatility.

This theoretical framework leads us to make two main predictions that will be tested in the rest of the article. The first hypothesis is that (1) a change in the national environment such as economic conditions increases the voters' ideological instability and thus the electoral volatility. The second hypothesis is that (2) a change in the national or international conditions does not affect only the votes for the incumbent as predicted by the theory of economic voting but affects the votes for all the parties, including the non governing parties.

3 DATA

3.1 BUILDING AN INDEX OF ELECTORAL VOLATILITY

Electoral volatility can be defined as the 'net electoral change between two consecutives elections' (Bartolini and Mair, 1990, p.19). Therefore, electoral periods (the period from one election to the next) are the unit of observation in the rest of our study. According to the classical aggregated electoral volatility index of Pedersen (1979), it is usually calculated by adding the absolute value of change in percentage of votes gained or lost by each party, including the incumbent, from one election to the following one divided by two.⁴ The index takes into account both the demand-driven changes in terms of voters' preferences and the supply-driven changes in terms of creations, disappearances, mergers and schisms of parties. Therefore, in a party system composed of n parties,

$$electoral_volatility_t = \frac{\sum_{i=1}^n \{|vote_{i,t} - vote_{i,t-1}|\}}{2}$$

where *vote* is the share of the total votes received by party i in election t . The electoral volatility can vary from zero = total stability to 100 = total instability.

To build this index for France over a long period, we consider the 46 democratic elections that have taken place since 1889. We take into account the 30 legislative and constituent elections since 1889, the date at which accurate data became available, and the 16 cantonal elections since 1945, excluding by-elections with too small electorates and those not representative of the total number of voters. The index of electoral volatility is calculated by considering the difference of votes for elections of the same nature but not that between a

⁴ The sum is divided by two to avoid double-counting because each party's gains correspond to another party's losses.

legislative election and a cantonal one. When legislative and cantonal elections take place in the same year and we thus have two indexes, as was the case in 1967, 1973 and 1988, we use the index for legislative elections for reasons of homogeneity. The passage from the Fourth Republic before World War Two and the Vichy regime to the Fifth Republic also warranted special treatment. First, we do not calculate electoral volatility between the elections before and after the World War Two. Thus we have no index for the year 1945 even though cantonal elections and elections for the Constituent Assembly took place then. The elections for the Constituent Assembly of 1945 are taken into account to calculate the index between the election for the Constituent Assembly in 1945 and that in 1946. To calculate the index for the legislative election of 1951, however, we consider the legislative election of 1946 and not the election for the Constituent Assembly of 1946 for reasons of homogeneity. Finally, we take into account the cantonal election of 1945 to calculate the index related to the cantonal election of 1949. This method allows us to compare elections of the same type systematically.

Some difficulties also arose in calculation of the Pedersen index because of the changes, mergers and splits of political parties (Pedersen, 1979; Powell and Tucker, 2009; Sikk, 2005). The most appropriate solution is to calculate the difference between a party's vote share and the summed vote share of its predecessor parties before a merger or its successor parties after a split (Sikk, 2005; Bartolini and Mair, 1990; Dassonneville et al., 2011, p. 13). The major difficulty, however, was establishing affiliations between parties because most parties change their names from one election to another, especially during the Third Republic and the post-World War Two period. On the basis of several historical sources (see Table 7 – Appendix), we established the affiliations presented in Tables 8, 9 and 10 – Appendix. The tables should be interpreted as follows. As shown in Table 10 – Appendix – focusing on the legislative elections in the Third Republic, we built seven blocks of parties. The total percentage of votes of block i in election t is given by adding the percentage of votes received in t by all the parties ranked as i in our table. Then, to calculate the index, we consider the difference of the percentage of votes received by block i from one election to another. Therefore, as we focus more on blocks of parties rather than individual parties, our index is an intra-block index as defined by Bartolini and Mair (1990, p. 28) rather than a pure Pedersen index.

Figure 1 plots the evolution of the index of electoral volatility since 1889. It appears that the French electoral volatility followed a general downward trend. It seems to be in contradiction with the findings of Bartolini and Mair (1990) who do not find any significant trend in electoral volatility for the western democracies in the period 1885-1985, especially for France from 1910. The average index is 14. The highest levels of volatility were reached

at the beginning of our observation period, during the stabilization of the French democracy corresponding to the beginning of the Third Republic (Electoral-Volatility₁₈₉₃= 29, EV₁₉₀₆ = 31) and, to a lesser extent, at the beginning of each Republic (EV₁₉₅₈ = 26 for the Fifth Republic and EV₁₉₄₉ = 23, EV₁₉₅₅ = 23 for the Fourth Republic). In spite of these general trends, electoral volatility remained quite erratic. Indeed, although volatility seemed to stabilize from 1960 to 1990, it increased again during the last two decades.

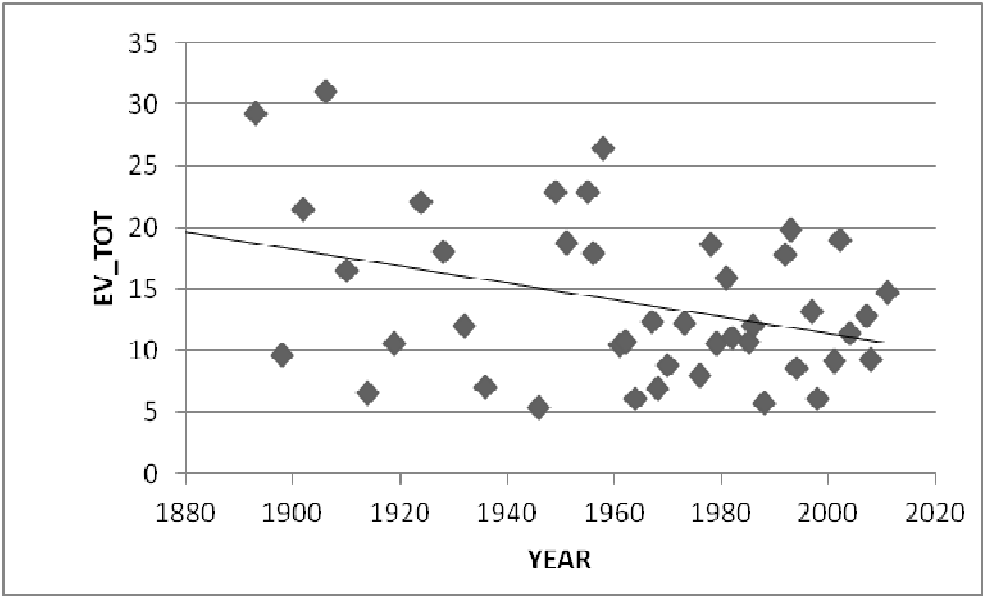


Fig. 1
Electoral Volatility in France 1889-2011 (Pedersen Index)

3.2 ECONOMIC ENVIRONMENT

Economic variables are increasingly used in the literature to explain electoral volatility, usually as mere control variables. These variables can be inflation (Remmer, 1991, Roberts and Wibbels, 1999; Mainwaring and Zoco, 2007; Madrid, 2005; Tavits 2005), the GDP growth rate (Remmer, 1991; Roberts and Wibbels, 1999; Mainwaring and Zoco, 2007) or public deficit or fiscal austerity (Nooruddin and Chiiber, 2008; Bohrer and Tan, 2000). In this paper, we use the growth rate of the real GDP per capita from Maddison’s website⁵, inflation and unemployment from Facchini and Melki (2011). The basic assumption is that, in time of economic crisis, i.e. low growth and high unemployment and inflation, voters revise their political beliefs and are thus led to change their votes. Our interest in considering different economic variables is to emphasize their relative importance in the electoral choice of French

⁵ Maddison’s website (<http://www.ggd.net/MADDISON/oriindex.htm>): Historical Statistics of the World Economy: 1-2008 AD-Table 2: GDP levels-France GDP in million 1990 International Geary-Khamis dollars.

voters in the long run. We put aside variables related to State size and public deficit because they are difficult to interpret in our case. For instance, Nooruddin and Chiiber (2008) maintain that such variables increase electoral volatility since deficits prevent the incumbent from distributing public goods and becoming popular in the following elections.

3.3 SOCIOLOGICAL VARIABLES

Vote and therefore volatility in votes is traditionally explained by sociological variables in terms of social cleavage, age or sex. First, when women were allowed to vote in 1944, they tended to vote for the right but this tendency progressively disappeared. This is usually explained by their access to the labor market and the homogenization of living conditions. However, as the date of the women's enfranchisement corresponds to a deep institutional change in France, the Fourth Republic, it seems impossible to isolate the effect of the women's vote on volatility in our study. Second, the age of voters is traditionally taken into account because young people tend to vote for leftwing parties whereas the elderly more often go for the right. This is important when we study electoral volatility, of course, but what really matters is that, according to our theory, older voters have strong political capital and stick to their electoral habits. To check the expected negative effect of the age of the electorate on volatility, we introduce a variable *age*, measuring the median age of the total population⁶.

3.4 ELECTORAL TURNOUT

A variable of electoral turnout is generally used to test the mobilization hypothesis according to which the introduction of new or previously abstaining voters with different preferences from those of regular voters (Bartolini and Mair, 1990, p. 174) increases volatility. If, however, we focus on abstention, the phenomenon can be interpreted in another way according to our theory. Indeed, momentous events that make voters' political beliefs obsolete mean they either vote differently or decide to abstain from voting. In this case, abstention is expected to be positively correlated with volatility. To take this effect into

⁶ Source: the French National Institute of Demographic Studies (Institut National d'Etudes Démographiques, INED).

account, we built a variable measuring the number of effective voters (*turnout*), which is derived from the same sources as those used to build the index of electoral volatility.⁷

3.5 INSTITUTIONS

Following Converse (1996) who argues that attachments to parties increased with the length of support for a party and exposure to elections, Mainwaring and Zocco (2007, p. 161) assume that “newly established party systems would become more stable over time as voters have more time to identify with parties”. As Mainwaring and Zocco (2007) suggest, however, the age of democratic institutions can matter more than the mere passage of time. As Figure 1 suggests, we have good reasons to think that institutional change and durability influenced electoral volatility rather than the mere passage of time. To control this potential influence, we build a variable (*republic_duration*) representing the duration of each Republic. We also test a variable (*new_republic*) coded 1 for the first election following the establishment of a republic. Moreover, as our sample includes elections of different natures, we control for that with a variable (*election_type*) distinguishing the different kinds of elections. This variable is coded 1 when the election considered in our sample is a legislative election and 0 when it is cantonal election.

3.6 PARTY SYSTEM FRACTIONALIZATION

Since Pedersen (1983), the fragmentation of the party system has traditionally been expected to increase electoral volatility. If the parties are fragmented, there are fewer ideological differences between them and, as a consequence, voters can easily move from one party to another. An alternative explanation would be that a system with small parties resulting from high fragmentation entails less volatility because they have a strong political identity. As these parties and their voters have a high ideological specialization, they are not ready to abandon their strong political capital and to change their votes. To capture the effect of party system format, we can consider, like Bartolini and Mair (1990), simply the number of parties in each election (fragmentation). Fragmentation is more often given by the number of parties weighted by their share of votes, however. We thus calculate the index of electoral

⁷ In the empirical analysis, we use alternative measures such as the number of people registered on the electoral lists and one referring to the rate of abstention.

fractionalization of the party system (fragmentation_RAE) proposed by Rae (1968). Therefore, in a party system composed of n parties,

$$fragmentation_RAE_t = 1 - \sum_{i=1}^n (vote_i^2)$$

where $vote$ is the share of the total votes for party i . The index can vary from 0 = total concentration to 1 = total fractionalization.

Figure 2 plots the evolution of the fragmentation index since the elections of 1889. Unlike electoral volatility, party system fragmentation followed a general upward trend. It reached its highest levels after World War Two, at the beginning of the Fourth and the Fifth Republics, periods of high electoral volatility. As electoral volatility and party-system fragmentation had opposite evolutions, however, we can expect the fractionalization index to have a negative coefficient in the regressions⁸.

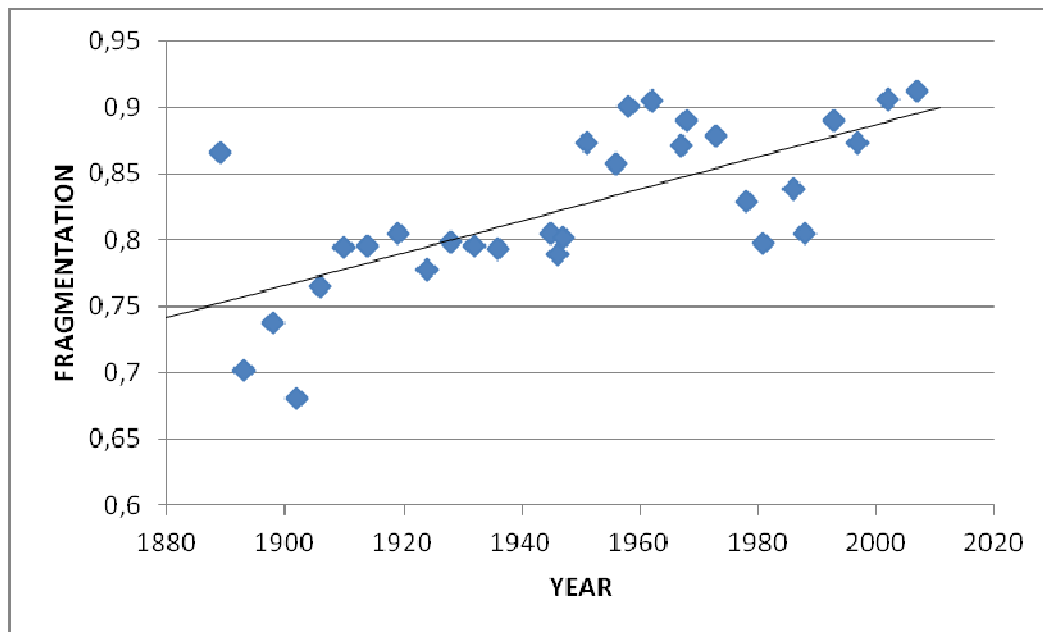


Fig. 2
Political Fragmentation in France 1889-2011 (Rae Index)

⁸ We also use traditional alternative measure of the effective number of parties measured in vote share (Laakso and Taagepera, 1979). In a party system composed of n parties, the index is calculated as follows:

3.7 VOTER PUNISHMENT OF THE INCUMBENT

The incumbent punishment hypothesis of the theory of economic voting has progressively emerged in the literature on electoral volatility (Remmer 1991; Mainwaring and Zoco, 2007; Nooruddin and Chiiber, 2008). As it is essential in our study to know which part of total electoral volatility is determined by changes in votes for the incumbent, we include a variable measuring the variation of the vote share for the incumbent in our model. The variable *incumbent_votes* provides the vote share received by the incumbent party, so that the first difference of the variable provides the incumbent's return rate.⁹ The correlation between the absolute value of the change in the incumbent vote share and our index of electoral volatility is 0.18. This makes us confident that electoral volatility does not merely reflect the incumbent's return rate.

4. RESULTS

4.1 UNIT ROOT

As we deal with macroeconomic variables over time, the possibility of spurious regressions, rarely considered in empirical studies of electoral volatility, arises owing to the potential integration and/or cointegration of variables. If we consider the time elapsing between two elections as the observation unit, we can implement a unit root test (Augmented Dickey Fuller) with an appropriate trend, T , to investigate the stationarity status of each variable. This test is performed by estimating a model including a trend and a constant, given by equation (1) or only a constant, given by equation (2):

$$\Delta y_t = \alpha + \rho y_{t-1} + \beta T + \sum d_s \Delta y_{t-s} + \varepsilon_t \quad (1)$$

$$\Delta y_t = \alpha + \rho y_{t-1} + \sum d_s \Delta y_{t-s} + \varepsilon_t \quad (2)$$

Where y_t is the relevant time series, T is a time trend that takes into account the number of years elapsing between two observations/elections, ε_t is a residual term.

⁹ In the light of different assumptions of government responsibility discussed in the literature on economic voting, we built other indexes measuring the incumbent's vote share. We construct a dummy variable coded zero in t when the incumbent rightwing or leftwing block (i.e. the incoming block in $t-1$) loses elections in t and coded one otherwise. We also use a variable that gives in t the variation of the percentage of votes received by the incumbent rightwing or leftwing block between elections in t and $t-1$.

Tables 1 and 2 provide the unit root test results on the levels and the first differences of the variables, respectively. They support the hypothesis that all variables are stationary in level except the series *age* and *unemployment*. For these two variables, the null hypothesis of a unit root can be rejected at only 10% but not at 5%. Therefore, the dependant variable *electoral volatility* is stationary in level as well as the first differences of the independent variables of our model. Therefore, being integrated of the same order, electoral volatility in level the independent variables in first difference, can enter the regressions without any concerns of spurious regressions. Moreover, it is worth noting that the tests do not reveal that that variable *electoral_volatility* is trend stationary. This information tends to confirm Bartolini and Mair (1990) and Dassonneville and Hooghe (2001) who do not find any significant trend in electoral volatility in Western Europe for the periods 1885-1985 and post-1945, respectively.

Table 1
Unit root tests on the levels of the variables

Variable	Deterministic component	ADF	k
electoral_volatility	constant, trend	-6.368***	0
age	constant, trend	-3.471*	5
turnout	constant, trend	-10.65***	0
fragmentation	constant, trend	-5.387***	0
growth of real per capita income	constant	-5.276***	0
unemployment	constant, trend	-3.477*	6
inflation	constant	-4.475***	1
incumbent_votes	constant	-5.374***	0

Notes: (1) The tests are performed on the levels of the variables. (2) k indicates the lag length chosen according to the Schwarz information criterion. (3) * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 2
Unit root tests on the first differences of the variables

Variable	Deterministic component	ADF	k
$\Delta(\text{electoral_volatility})$	constant	-4.682***	3
$\Delta(\text{age})$	constant	-4.443***	0
$\Delta(\text{turnout})$	constant	-7.671***	3
$\Delta(\text{fragmentation})$	constant	-8.082***	1
$\Delta(\text{unemployment})$	constant	-3.559**	0
$\Delta(\text{incumbent_votes})$	constant	-5.453***	3

Notes: (1) The tests are performed on the first log-differences of the variables. (2) k indicates the lag length chosen according to the Schwarz information criterion. (3) * significant at 10%; ** significant at 5%; *** significant at 1%.

4.2 REGRESSION RESULTS

To investigate to what extent the determinants of electoral volatility differ from the determinants of the change in the incumbent's vote share, we run different battery of regressions. A first one studies the determinants of total electoral volatility. A second one studies the determinants of the incumbent return rate. A main difficulty comes from the small number of observations that does not exceed 43. To keep a sufficient number of freedom degrees, we investigate sequentially two different sets of factors explaining electoral volatility: the institutional factors and the socio-political factors. In all the following regressions, we estimate with an OLS method, time-series data for 46 elections held in France between 1889 and 2011. We systematically perform a Jarque-Bera test to make sure that the error terms follow a normal distribution and that the estimate results do not depend on some outliers. We also perform a Box-Pierce test to make sure that the error terms are not auto-correlated. In the presence of serial auto-correlation of the error-terms, an autoregressive term is included into the regressions.

A four-variable model, in which we include *republic_duration*, *new_republic*, *republic*, *election_type*, is first estimated to test the effects of political institutions on total electoral volatility. As shown in Table 3, the institutional variables perform poorly in explaining electoral volatility. Only the variable *republic* reaches a reasonable level of significance. Indeed, the coefficient of this variable is negative and statistically significant at the 10% level. This implies that the volatility level was higher under the early republics, the 3rd and 4th Republics, than under the 5th Republic. This suggests that volatility depends on specific

features to each Republic (voting system, instability of the government), which are specified in our model. The instability of governments under the 3rd Republic may be a good candidate for explaining the higher electoral volatility under this period. However, as shown in Table 3, the duration of each republic as well as the establishment of a new republic do not explain electoral volatility. Moreover, *election_type* does not reach significance. Therefore, the different nature of elections (legislative/cantonal) included in our sample does not explain electoral volatility. In short, the institutional setting of each republic seems to have played a role in the evolution of electoral volatility, although we are not able to clearly identify which feature of each republic has mattered. In the rest of the analysis, we only keep the variable *republic* in the following specifications.

Table 3
Electoral Volatility and institutions, 1889-2011

	electoral volatility (1889-2011)
constant	25.928*** [8.437]
republic_duration	-0.042 [0.053]
new_republic	3.731 [6.509]
republic	-2.666* [1.508]
election_type	0.996 [1.848]
R ²	0.200

Notes: (1) N = 43 elections. (2) White-corrected standard errors in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%. (3) No outlier.

Then, we estimate a 3-variable model including the traditional socio-political variables explaining electoral volatility, that is to say the ageing of the electorate, $\Delta(\text{age})$, the variation in turnout $\Delta(\text{turnout})$, the variation in party-system fragmentation $\Delta(\text{fragmentation})$. The estimates result is shown in Table 4, column 1. We can notice that all variables reach a reasonable level of significance. The ageing of the electorate has the expected negative impact on electoral volatility. Party-system fragmentation, measured as the total number of parties,

has a positive and statistically significant but at only 10% impact on volatility¹⁰. An increase in turnout has the expected effect of increasing volatility¹¹. Therefore all these variables are kept in the following specifications.

Table 4
Electoral Volatility, 1889-2011

	electoral volatility (1889-2011)				
	(1)	(2)	(3)	(4)	(5)
constant	14.449*** [0.908]	24.033*** [4.459]	27.389*** [5.328]	29.448*** [6.360]	21.293*** [4.652]
$\Delta(\text{age})$	-5.416*** [1.362]	-3.985** [1.571]	-4.614** [2.030]	-4.249** [1.873]	-4.266* [2.146]
$\Delta(\text{fragmentation})$	2.201* [1.157]	2.006** [0.868]	1.817* [0.919]	1.636** [0.610]	1.477 [0.899]
$\Delta(\text{turnout})$	1.42E-07** [5.10E-08]	1.49E-07*** [4.65E-08]	1.51E-07*** [5.23E-08]	1.43E-07*** [5.03E-08]	1.34E-07** [5.83E-08]
republic	-	-2.271** [0.970]	-2.938** [1.126]	-3.325** [1.362]	-1.697 [1.010]
$\Delta(\text{growth of real per capita income})$	-	-21.237*** [3.739]	-	-	-37.393* [19.286]
$\Delta(\text{inflation})$	-	-	-0.095 [0.108]	-	0.109 [0.208]
$\Delta(\text{unemployment})$	-	-	-	0.192 [0.826]	0.066 [0.776]
R ²	0.408	0.600	0.396	0.407	0.627

Notes: (1) N = 42 elections. (2) Heteroskedastic Whyte type standard errors in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%. (3) We control for the year 1906 that appears as an outlier.

Thus, the benchmark specification or our model includes the 4 variables, *republic*, $\Delta(\text{age})$, $\Delta(\text{turnout})$, $\Delta(\text{fragmentation})$. To investigate the economic determinants of electoral volatility, we add sequentially different economic variables to the benchmark model. Column 2 of Table

¹⁰ We also tested the effects of other common measures of party-system fragmentation: the indexes of political fragmentation (Rae, 1968) and of the effective number of parties (Laasko and Taagepera, 1979). Quite surprisingly, the coefficients of these indexes do not reach any reasonable level of significance (for reasons of clarity, the results of these regressions are not presented here). Bartolini and Mair (1990) provide us with an explanation of the absence of effect of these indexes. Indeed, indexes capturing the number of parties weighted by their share of votes amounts to an index providing the number of major parties. Although this measure is adapted to explain volatility in a two-party system, it is not the case in a multi-party one such as the French one.

¹¹ Alternative measures of turnout such as the number of registered citizens and the abstention rate have the same effect although the regressions results are not reported here.

4 reports the estimates result of the model including the variation of the growth of the real per capita income. The variable is statistically significant at the 1% level and the predicted negative impact on electoral volatility. This effect is robust when including the other economic variables, the variation in inflation and unemployment, as shown in column 5. The coefficient of the change in the growth of real per capita income remains significant at the 6% level. In addition, the change in inflation and unemployment does not impact volatility, according to columns 3, 4 and 5. The absence of influence of inflation contrasts with other studies, mainly on Latin America, where inflation increases electoral volatility (Remmer, 1991; Mainwaring and Zoco, 2007). That can be explained by the absence of *hyper-inflation* for a long period in France, differently from Latin America. However, the influence of a change in economic growth can be due to the effect of the economic environment on the changes in the incumbent's vote share.

We now conduct a test to make sure that the effect of economic growth on electoral volatility that we find is not only mediated through the effect of the economic growth on the incumbent's return rate, as predicted by the theory of economic voting. For that, we propose a straightforward test. Column 1, Table 5 reports the estimate our benchmark model including the variable of economic growth. If the effect of this variable is only due to its effect on the incumbent's return rate, then including the incumbent's return rate in the benchmark model should remove the effect of the growth variable on electoral volatility. Column 2, Table 5 reports the result of the benchmark model including the variation of the incumbent's vote share, i.e. the incumbent's return rate. We notice that the effect of the growth variable is robust to the inclusion of the incumbent's return rate. Moreover, the magnitude and the t-statistics of the growth of real per capita income are reinforced in column 2. This supports the hypothesis that the growth variable affects the total electoral volatility, given the effect of the growth variable on the incumbent's return rate. As a consequence, this provides evidence of our hypothesis of an ideological voting, different from a pure economic voting. Moreover, the variable measuring the change in the incumbent votes is not significant. This suggests that the variation in the incumbent's votes is not a major dimension of the variation in total votes.

In a last set of tests, we more directly investigate the determinants of the incumbent's return rate. To explain the incumbent's return rate, we include the variable measuring the change in fragmentation, the change in turnout, and the *republic* variable capturing the effect of potential changes in the electoral rules and constituencies. In addition, because of problems of serial correlations, the following regressions include an autoregressive term. The test results are presented in Table 6. Columns 2 and 4 show that the change in the growth of real

per capita income and the change in inflation does not impact the change in the incumbent votes share. However, the change in unemployment significantly decreases the incumbent's return rate (column 3). This effect is robust when including the economic variables all together in the model. This last finding is in line with the empirical literature on vote functions. More interesting for us, our finding supports that changes in economic environment can have different effects on the vote share for the incumbent and for other parties. While the incumbent's return rate is affected by the change in unemployment, the return rate for the non-governing parties and for all parties in general is affected by fluctuations in the growth or real per capita income.

Table 5
Electoral Volatility and incumbent's votes, 1889-2011

	electoral volatility (1889-2011)	
	(1)	(2)
constant	24.03*** [4.455]	21.36*** [4.307]
$\Delta(\text{age})$	-3.985** [1.571]	-4.125** [1.749]
$\Delta(\text{fragmentation})$	2.006** [0.868]	0.891 [0.765]
$\Delta(\text{turnout})$	1.49E-07*** [4.65E-08]	1.72E-07*** [4.25E-08]
republic	-2.271** [0.970]	-1.693* [0.918]
$\Delta(\text{growth of real per capita income})$	-21.23*** [3.739]	-23.246*** [7.353]
$\Delta(\text{incumbent_votes})$	-	-0.067 [0.069]
R ²	0.600	0.599

Notes: (1) N = 42 elections. (2) Heteroskedastic Whyte type standard errors in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%. (3) We control for the year 1906 that appears as an outlier.

Table 6
Incumbent's votes, 1889-2011

	$\Delta(\text{incumbent_votes})$				
	(1)	(2)	(3)	(4)	(5)
constant	-2.299 [9.658]	-2.794 [9.981]	-4.778 [12.383]	-2.924 [9.806]	-1.346 [11.819]
$\Delta(\text{fragmentation})$	-4.727** [2.002]	-4.753** [2.043]	-5.193** [2.001]	-5.273** [2.045]	-6.522** [2.426]
$\Delta(\text{turnout})$	2.45E-07* [1.43E-07]	2.30E-07 [1.43E-07]	2.09E-07 [1.38E-07]	2.41E-07 [1.54E-07]	2.72E-07* [1.60E-07]
republic	0.602 [2.137]	0.779 [2.205]	1.354 [2.633]	0.790 [2.169]	0.678 [2.528]
$\Delta(\text{growth of real per capita income})$		17.447 [19.502]			59.834 [40.475]
$\Delta(\text{unemployment})$			-2.629** [1.023]		-2.560** [1.043]
$\Delta(\text{inflation})$				-0.147 [0.191]	-0.447 [0.367]
R ²	0.522	0.539	0.576	0.539	0.608

Notes: (1) N = 40 elections. (2) The equations include an autoregressive term to avoid problems of serial correlation. (3) Heteroskedastic Whyte type standard errors in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%. (4) No outlier.

5 CONCLUSION

In recent years, the electoral fortunes of incumbent have focused much attention in academic research. The present paper suggests that, although it is an important issue, the determinants of electoral behaviour cannot be properly understood without taking into account the vote share for non governing parties. An analysis of the elections in France from 1889 to 2011 reveals that the aggregated electoral volatility has strongly depended on the economic environment along with traditional socio-political variables. We provide evidence that the fluctuations of the economic environment have not affected the vote shares for the incumbent and for other parties.

In addition, as part of the convergence process occupying political economy on the issue of electoral behavior, this article proposed an alternative theory of voting to the pure economic voting. Indeed, we argue empirically and theoretically that economic voting based on the incumbent's punishment can only account for a limited part of voting patterns. The economic fluctuations determine the vote share received by parties other than the incumbent. The

limitations of the economic voting theory stem from the fact that this theory neglects some of the costs inherent in electoral behaviour.

To cope with this limitation, we proposed an explanation of the voting patterns based on the voters' ideological instability. This instability is reflected in the phenomenon of electoral volatility. The core of this theory is the concept of 'justification costs' in the determination and change of ideologies. The basic idea is that, in the presence of a change in the environment, individuals' system of interpretation of the world will be adapted to justify and explain it. Otherwise, the event increases the justification costs and can drive individuals to change their ideology and their vote. According to an individualist and subjectivist theory or belief formation, events should not affect in the same way the whole of the electorate, especially the rightwing and the leftwing voters. Incidentally, the article raises an issue hitherto unexplored by studies on electoral volatility: the fundamental need to explore the specific determinants of volatility inside rightwing and leftwing blocks. That opens up new perspectives on the study of electoral volatility in particular and on electoral behaviours generally.

APPENDIX

Table 7
Description and Source of Variables

Variable	Definition	Source
age	median age of total population	INED (institut national d'études démographiques)
electoral volatility	sum of the absolute values of change in percentage of votes gained or lost by each party from one election to the following one divided by two	Website of the French National Assembly Laurent de Boissieu' s website Goguel (1946)
fragmentation	Total number of parties	see: electoral volatility
growth	real GDP per capita growth rate	Maddison's website National accounts- INSEE (National Institute of Statistics and Economic Studies)
incumbent votes	vote shares received by the incumbent party	see: electoral volatility
inflation	inflation rate	Thomas Piketty's website OECD website
new republic	dummy variable coded one for the first two elections of each Republic and zero for the other elections	own calculation
republic duration	Variable counting of the time elapsed from the establishment of a new Republic	own calculation
republic	variable coded 3 for the years of the 3rd Republic, 4 for the years of the 4th Republic and 5 for the years of the 5th Republic	own calculation
turnout	effective number of voters	see: electoral volatility
election type	Dummy variables coded one for the legislative elections and zero for the cantonal elections	own calculation
unemployment	unemployment rate	Villa (1994) INSEE (National Institute of Statistics and Economic Studies)

Table 8

Parties' Affiliations in the Legislative Elections under the Third Republic

	1889	1893	1898	1902	1906	1910	1914	1919	1924	1928	1932	1936
<i>Section Française de l'Internationale Communiste/ Communistes</i>	-	-	-	-	-	-	-	-	1	1	1	1
<i>Socialistes</i>	2	2	2	-	-	-	-	2	2	2	2	2
<i>Socialistes Révolutionnaires</i>	-	-	-	2	-	-	-	-	-	-	-	-
<i>Socialistes réformistes</i>	-	-	-	2	-	-	-	-	-	-	-	-
<i>Section Française de l'Internationale Ouvrière</i>	-	-	-	-	2	2	2	-	-	-	-	-
<i>Divers Gauche</i>	-	-	-	-	-	-	-	-	-	2	2	3
<i>Radicaux-Socialistes</i>	-	3	3	-	-	-	-	-	-	-	-	-
<i>Socialistes Indépendants</i>	-	-	-	-	3	-	-	3	3	3	-	-
<i>Parti Républicain Radical</i>	-	-	-	-	3	3	3	3	3	3	3	3
<i>Républicains Socialistes</i>	-	-	-	-	-	3	3	3	3	3	3	-
<i>Radicaux</i>	-	4	4	-	-	-	-	-	-	-	-	-
<i>Parti Républicain Radical et Radical Socialiste</i>	-	-	-	4	-	-	-	-	-	-	-	-
<i>Radicaux Indépendants</i>	-	-	-	-	4	4	4	4	4	4	4	4
<i>Républicains de gauche</i>	-	-	-	-	4	4	4	4	4	4	4	4
<i>Démocrates Populaires</i>	-	-	-	-	-	-	-	-	-	-	4	4
<i>Républicains</i>	5	-	-	-	-	-	-	-	-	-	-	-
<i>Républicains Progressistes</i>	-	5	5	-	-	-	-	-	-	-	-	-
<i>Action Libérale Populaire</i>	-	-	-	5	5	5	-	-	-	-	-	-
<i>Union Républicaine</i>	-	-	-	-	-	5	5	5	5	5	5	5
<i>Monarchistes (conservateurs)</i>	6	6	6	-	-	-	-	-	-	-	-	-
<i>Ralliés</i>	-	6	6	-	-	-	-	-	-	-	-	-
<i>Réactionnaires</i>	-	-	-	6	6	6	6	-	-	-	-	-
<i>Indépendants</i>	-	-	-	-	-	-	-	6	6	6	6	6
<i>Conservateurs</i>	-	-	-	-	-	-	-	6	6	6	6	6
<i>Nationalistes (Révisionnistes, Boulangistes, Socialistes Révisionnistes, Antisémites, Démocrates Chrétiens)</i>	7	7	7	-	-	-	-	-	-	-	-	-
<i>Anciens Combattants</i>	-	-	-	-	-	-	-	7	-	-	-	-

Table 9

Parties' Affiliations in the Legislative Elections under the Fourth and Fifth Republics

	1945 C	1946 C	1946 L	1951	1956	1958	1962	1967	1968	1973	1978	1981	1986	1988	1993
<i>Parti Communiste Français (et apparentés)</i>	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
<i>Communiste Internationaliste</i>	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
<i>Union Républicaine et Résistante</i>	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
<i>Extrême Gauche (et divers)</i>	-	-	-	1	1	-	1	1	1	-	1	1	1	1	1
<i>Union Progressiste</i>	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-

<i>Forces Démocratiques (Radicaux UFD)</i>	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
<i>Parti Socialiste Unifié</i>	-	-	-	-	-	-	1	1	1	1	-	-	-	-	-
<i>Lutte Ouvrière</i>	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
<i>Autres Trotskistes</i>	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
<i>Communiste Révolutionnaire</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i> Française de l'Internationale Ouvrière</i>	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-
<i> de la Gauche Démocrate et Socialiste</i>	-	-	-	-	-	-	-	2	2	-	-	-	-	-	-
<i>Parti Socialiste</i>	-	-	-	-	-	-	-	-	-	2	2	2	2	2	2
<i> Radicaux- ratique et Socialiste de la Résistance</i>	3	-	-	3	3	-	-	-	-	-	-	-	-	-	-
<i>Mouvement des Gauches Républicaines</i>	-	3	3	3	3	-	-	-	-	-	-	-	-	-	-
<i>Divers Gauche</i>	-	3	-	3	3	-	-	-	-	3	3	3	3	-	-
<i>Radicaux Socialistes</i>	-	-	-	-	-	3	3	3	3	-	-	-	-	-	-
<i>Mouvement des Radicaux de Gauche</i>	-	-	-	-	-	-	-	-	-	3	3	-	-	-	-
<i>Radicaux de Gauche</i>	-	-	-	-	-	-	-	-	-	-	-	3	3	3	3
<i> Ecologistes (et divers)</i>	-	-	-	-	-	-	-	-	-	-	4	4	4	4	4
<i>Les Verts</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
<i>Mouvement Républicain Populaire</i>	5	5	5	5	5	5	5	-	-	-	-	-	-	-	-
<i>Radicaux Centristes</i>	-	-	-	-	-	5	5	5	5	-	-	-	-	-	-
<i>ratique et Socialiste de la Résistance (minoritaires)</i>	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-
<i>Centre Démocrate</i>	-	-	-	-	-	-	-	5	5	-	-	-	-	-	-
<i> Progrès et Démocratie Moderne</i>	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-
<i>Mouvement Réformateur</i>	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-
<i>Pour la Démocratie Française</i>	-	-	-	-	-	-	-	-	-	-	5	5	5	5	5
<i>Mouvement Démocrate</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Divers Droite</i>	6	6	6	-	-	-	-	-	-	8	-	8	8	8	8
<i> Républicains Indépendants</i>	6	6	6	-	-	-	6	6	6	6	-	-	-	-	-
<i>Parti Paysan</i>	6	6	6	-	-	-	-	-	-	-	-	-	-	-	-
<i> Parti Républicain de la Liberté</i>	6	6	6	-	-	-	-	-	-	-	-	-	-	-	-
<i>Union Gaulliste</i>	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-
<i>Conseil des Indépendants (et paysans)</i>	-	-	-	6	6	6	6	-	-	-	-	-	-	-	-
<i> Paysans et Indépendants Français</i>	-	-	-	6	6	-	-	-	-	-	-	-	-	-	-
<i>Mouvement du Peuple Français</i>	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-
<i>Républicains Sociaux</i>	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-
<i>Modérés</i>	-	-	-	-	-	6	6	6	-	-	-	-	-	-	-
<i>Centre de la Réforme Républicaine</i>	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-
<i>Divers Gaullistes</i>	-	-	-	-	-	6	6	6	6	-	-	-	-	-	-
<i>Pour la Nouvelle République Union Démocratique du Travail</i>	-	-	-	-	-	6	6	-	-	-	-	-	-	-	-
<i>Démocrates pour la Ve République</i>	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-

<i>ur la Défense de la République avec Républicains Indépendants)</i>	-	-	-	-	-	-	-	-	-	6	6	-	-	-	-	-
<i>tre Démocrate et Progrès</i>	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-
<i>mblement pour la République</i>	-	-	-	-	-	-	-	-	-	-	-	6	6	6	6	6
<i>pour un Mouvement Populaire</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>trême Droite (et divers)</i>	-	-	-	-	7	7	7	7	7	7	7	7	7	7	7	7
<i>aternité Française (Poujadistes)</i>	-	-	-	-	7	7	7	-	-	-	-	-	-	-	-	-
<i>Alliance Républicaine</i>	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-
<i>Front National</i>	-	-	-	-	-	-	-	-	-	-	-	7	7	7	7	7
<i>ement National Républicain</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>mblement Pour la France</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Régionalistes</i>	-	-	-	-	-	-	-	8	-	-	8	-	8	8	8	8
<i>e Pêche Nature et Tradition</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Divers</i>	8	8	8	8	8	8	8	8	-	-	8	8	-	8	-	8

Table 10
Parties' Affiliations in the Cantonal Elections under the Fourth and Fifth Republics

	1945	1949	1955	1961	1964	1967	1970	1973	1976	1979	1982	1985	1988	1992	1994	1998	2002
<i>iste Français (et apparentés)</i>	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
<i>Gauche (et apparentés)</i>	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
<i>ocialiste Unifié</i>	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>se de l'Internationale Ouvrière</i>	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-
<i>Gauche Démocrate et Socialiste</i>	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-
<i>Parti Socialiste</i>	-	-	-	-	-	-	2	2	2	2	2	2	2	2	2	2	2
<i>ue et Socialiste de la Résistance- t de Libération Nationale</i>	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>licaux Socialistes</i>	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>blicains Socialistes</i>	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>listes Indépendants</i>	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>endants de Gauche</i>	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>t des Gauches Républicaines</i>	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Radicaux</i>	-	-	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-
<i>Centre Gauche</i>	-	-	3	3	3	-	-	-	5	-	-	-	-	-	-	-	-
<i>Divers Gauche</i>	-	-	3	-	-	3	3	3	3	3	3	3	3	3	3	3	3
<i>licaux de Gauche</i>	-	-	-	-	-	-	-	3	3	-	-	-	-	-	-	-	-
<i>des Radicaux de Gauche</i>	-	-	-	-	-	-	-	-	-	3	3	3	3	3	3	-	-
<i>Radical de Gauche</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3
<i>ement Des Citoyens</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3
<i>ogistes (et divers)</i>	-	-	-	-	-	-	-	-	-	4	4	4	4	-	-	4	4
<i>énération Ecolo</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4	-	-
<i>s (et Europe Ecologie)</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4	4	4
<i>t Républicain Populaire</i>	5	5	5	5	5	-	-	-	-	-	-	-	-	-	-	-	-
<i>Gauche et Alliance Démocrate</i>	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>ntre Démocratie</i>	-	-	-	-	-	5	5	-	5	-	-	-	-	-	-	-	-

<i>Démocratie et Progrès</i>	-	-	-	-	-	-	-	5	5	5	-	-	-	-	-	-	-
<i>Réformateurs</i>	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-
<i>la Démocratie Française</i>	-	-	-	-	-	-	-	-	-	-	5	5	5	5	5	5	5
<i>Mouvement Démocrate</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Centre Droit</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Dépendants de Droite</i>	6	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Mouvement Républicain</i>	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Conservateurs</i>	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Libéraux Indépendants</i>	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Indépendants</i>	-	6	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-
<i>Libéral de la Liberté</i>	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Action Locale</i>	-	-	6	6	6	6	-	-	-	-	-	-	-	-	-	-	-
<i>des Indépendants (et paysans)</i>	-	-	6	6	6	-	-	-	-	-	-	-	-	-	-	-	-
<i>Modérés</i>	-	-	6	-	-	6	6	6	6	6	-	-	-	-	-	-	-
<i>Divers Droite</i>	-	-	-	-	-	-	-	-	6	6	6	6	6	6	6	6	6
<i>Catégoriques Indépendants</i>	7	-	-	-	7	7	7	7	7	-	-	-	-	-	-	-	-
<i>Mouvement Républicain et Démocrates pour la République</i>	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Mouvement du Peuple Français</i>	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Mouvement pour la Nouvelle République</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Démocratique du Travail</i>	-	-	7	7	7	-	-	-	-	-	-	-	-	-	-	-	-
<i>Démocrates pour la Ve République</i>	-	-	-	-	-	7	7	-	-	-	-	-	-	-	-	-	-
<i>la Défense de la République (Républicains Indépendants)</i>	-	-	-	-	-	-	-	7	7	-	-	-	-	-	-	-	-
<i>Mouvement pour la République</i>	-	-	-	-	-	-	-	-	-	7	7	7	7	7	7	7	7
<i>Mouvement Pour la France</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7
<i>Un Mouvement Populaire</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Front National</i>	8	-	-	-	-	-	-	-	-	-	-	-	8	8	8	8	8
<i>Extrême Droite (divers)</i>	-	8	8	8	8	8	8	-	-	-	8	8	8	8	8	8	-
<i>Front National Républicain</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8
<i>Régionalistes</i>	-	-	-	-	-	-	-	-	-	-	-	-	9	9	9	-	9
<i>Chasse Pêche Culture et Tradition</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9
<i>Autres</i>	9	-	9	9	-	-	-	-	-	-	-	-	-	-	-	9	9