Title:

Economic Vote Instability: Endogeneity or Restricted Variance? Spanish Panel
Evidence (2008 and 2011)

FORTHCOMING AT EUROPEAN JOURNAL OF POLITICAL RESEARCH

Authors:

1)- Marta Fraile

Permanent Research Fellow at CSIC, Institute of Public Goods and Policies (IPP)

C/Albasanz, 26-28. Madrid 28037 (España).

Phone: +34 91 602 2946; FAX: +34 91 602 29 71

Email: marta.fraile@csic.es

2)-Michael S. Lewis-Beck

Department of Political Science

University of Iowa

Iowa City, IA 52242

Email: michael-lewis-beck@uiowa.edu

Abstract:

While the economic vote exists in Western democracies, the question of its stability remains a subject of controversy. We focus on two possible factors behind the instability observed: the endogeneity problem and the restricted variance problem. The first concerns the influence of partisan thinking on economic perception. The second concerns the influence of economic crisis, when virtually all voters may perceive a bad economy. Here we examine these problems using panel data from the Spanish national

elections (2008 and 2011). After various causality tests, we conclude the economic vote was influential in both contests, but apparently less so in 2011. We go on to show that the initial 2011 result misleads, because of the statistical artifact presented by the restricted variance problem. Thus, we develop an alternative strategy for exogenizing economic perceptions, using aggregate economic measures in a pooled cross-sectional design. We demonstrate that the economy mattered greatly under the economic crisis of 2011. This estimation strategy could be applicable to other Western democracies experiencing such economic crisis.

Keywords:

Economic crisis, Elections, Economic Voting, Spain

Acknowledgments:

This work was presented at the International Workshop "Change in political attitudes: Panels and experiments", 7-8th June 2012, UAB. We wish to thank the participants for their comments.

Marta Fraile acknowledges the financial support of the Spanish Ministry of Science and Innovation [grant number: CSO2008-03819/SOCI].

1. INTRODUCTION

The economic voting literature continues to build, reaching beyond North America and Western Europe, and beyond single-nation, cross-sectional investigations. (See reviews in Duch 2007; Hellwig 2010; Lewis-Beck & Stegmaier 2000 and 2007). Leading studies have employed rigorous multi-national survey designs (Duch & Stevenson 2008; Nadeau et al. 2013; Van der Eijk et al. 2007). It seems increasingly clear that in democracies, generally speaking, national economic perception influences the national vote. However the question of the instability of the economic effect on the vote continues to be controversial (Anderson 2007; Bellucci & Lewis-Beck 2010; Duch 2007; Nannestad & Paldam 1994). Many factors appear to mediate the relationship between the objective economy and the electoral results. This study deals with two of them. First, the problem of controlling for the endogeneity of citizen perceptions of economic conditions, an issue subject to increasing research scrutiny. Second, the emerging problem of how changing economic conditions, namely economic crisis, influences even well-estimated economic voting models. In particular, we explore the observed instability of economic voting, and examine the degree to which the instability is apparent or real.

Our test data come from the telling case of Spain, where the endogeneity of the economic vote has been systematically challenged, especially now in the face of deepening economic crisis. We look at the 2008 and 2011 elections, which conveniently mark the country's current economic crisis from its beginning to its depths. The reigning scholarly perspective has been that, for Spanish voters, their ideological position pretty much explains their political behavior (Gunther et al. 1986; Maravall & Przeworski 2001). But more recent studies argue that the Spaniards, like other democratic citizens, can cast an economic vote (see, for instance, González 2002). The

difficulty with these pro-economic voting studies, as with many pro-economic voting studies elsewhere, is that they are mostly cross-sectional survey analyses, from single slices in time. Such a cross-sectional design makes it difficult to sort out causal flow. Does economic evaluation influence partisan support? Or does partisan support actually influence economic evaluation? For example, suppose a leftist believes the economy has improved when the government is on the left, but believes the economy has declined when the government is on the right. In other words, the vote is motivated by left-right ideology itself, and has nothing to do with any objective assessment of how the economy is functioning under the current government. If such a scenario holds true, about the only test is with panel data, where the causal variables – economic perception and left-right ideology – are properly exogenized before estimation of effects takes place.

Fortunately, for these two recent Spanish elections, the available survey data offer well-executed panels for investigation. Earlier, the 2000 Spanish national election survey also offered a panel, and it yielded research showing the importance of the economic vote for that year (Fraile & Lewis-Beck 2010). However, that election may have been exceptional. Under the Partido Popular (PP) government, many 2000 economic indicators looked very good, e.g., GDP growth jumped to 5.0 percent, unemployment dropped to 11.1, jobs growth climbed to 5.1 percent. Further, Prime Minister Aznar campaigned on the slogan, ‘Spain is doing well.’ Under these special circumstances the relevance of the state of the economy in that electoral campaign might make it a special case favoring the economic voting hypothesis.

As shall be seen, the economic vote appears alive and well in the 2008 and 2011 elections, despite different objective economic conditions. Moreover, in the context of sharp economic crisis, such as that of 2011, virtually all citizens rightly perceived the

state of the economy as bad (independent of their ideological tendencies) As we show, this creates a methodological artifact, one that appears to reduce substantially the impact of the economic vote. However, by taking into account such an artifact, we discover that the strength of the economic vote in 2011 remains relevant and notable. In short, Spaniards cast an economic vote not only in healthier economic contexts, but also in the context of deep economic crisis. Further, this finding would appear to apply, in principle, to the study of the economic vote in other nations undergoing similar economic crisis.

2. THEORY: ECONOMIC VOTE INSTABILITY AND THEENDOGENEITY PROBLEM

Despite massive evidence in favor of the existence of a significant link between economic evaluations and government support, many controversial issues remain. Perhaps one of the most relevant is the question of the instability of the economic vote. The question of this stability was earlier raised by Nannestad & Palmer (1994), in the context of vote-popularity functions, “V-P functions,” as they called them. The issue has been raised again recently by Duch (2007), in the context of comparative economic voting. There are many explanations accounting for the lack of stability in the economic vote. All of them touch different aspects of the long causal chain linking the objective economy and the individual vote. More specifically, multiple factors have been singled out, such as the number of parties in government, the globalization of the economy, the ideological orientation of the rulers, and the degree to which government is divided. (See, respectively, the following illustrative studies: Powell & Whitten 1993; Hellwig 2001; Duch & Stevenson 2006; Lewis-Beck & Nadeau 2000).

Another, more recent, factor refers to citizen perceptions of economic conditions. This question is the initial focus of our inquiry below. Those who dissent from the classic economic voting argument assert there is no true, independent effect of economic thinking on the vote. According to this view, citizens perceive the economy through their ideological (or partisan) filters. Thus, individuals with an attachment to the incumbent will perceive the national economy more positively. These electors, once decided to vote for the incumbent on partisan grounds, look for ex-post ways of rationalizing their electoral decisions, in the claim that the economy is doing well (Anderson 2007; Evans & Andersen 2006; Lander & Wleizen 2007; Van der Eijk et al. 2007). Other research, however, has shown that this revisionist argument, as persuasive as it might seem theoretically, does not hold up under rigorous econometric causality testing (Fraile & Lewis-Beck 2010; Lewis-Beck 2006; Lewis-Beck et al. 2008; Nadeau et al. 2013; Markus 1988 and 1992). Indeed in the face of these demanding analyses, the independent effect of the economic vote emerges strongly.

Is the instability of the economic vote linked to the endogeneity question? Perhaps the degree of the ideological contamination of the economic evaluations varies depending on the economic context. Under objectively good economic times, there might be more variance in economic opinion, e.g., with a left government a leftist citizen has no trouble saying the economy is good, but a rightist citizen might have trouble saying so (perhaps because of disagreement over economic policies). But, under objectively bad economic times, it hard for the leftist (or rightist) citizen to deny that reality, because regardless of policies followed, the results are bad. Accepting this line of revisionist reasoning, the expectation would be for strong ideological contamination of the economic perceptions in 2008 (a context of relative economic prosperity), compared to

2011 (a context of a sharp economic crisis). Consequently, once we control for the endogeneity problem, the economic vote should largely disappear in 2008.

In this study we test these expectations. Contrary to the revisionist argument, we find convincing evidence for a sharp economic vote in both the 2008 and 2011 elections, even after properly accounting for the potential endogeneity of both economic evaluations and ideology. But before showing this evidence, we provide a brief summary of the political and economic context of the two Spanish national elections analyzed here.

3. THE POLITICAL AND ECONOMIC CONTEXT OF THE 2008 AND 2011 ELECTIONS IN SPAIN

Here we analyze the elections corresponding to the two consecutive mandates of the PSOE (Spanish Socialists Party) in Spain. These two legislatures were very different from the political and economic point of view. The first Socialist mandate can be characterized as one where political issues were largely positional. Many divisive issues related to morality and religion were at the political forefront (such as, for instance, legislation to make divorce easier, an historical memory law on the Spanish Civil War and Franco's dictatorship, legalization of same-sex marriage). These policies generated heated opposition from the main PP conservative party, the Catholic Church, and the conservative civil society organizations, thereby causing political and social conflict both in the Parliament and in the streets. Overall, the majority of the legislative initiatives were intensively contested by the PP. As a consequence, some have held the 2004-8 Socialist mandate to be the most divisive legislature in new Spain's 31 years of democracy (Field 2009).

In addition, the first Socialist mandate showed a period of economic boom (from 2004 to 2007). This growth was based largely on the high levels of consumption driven by low interest rates, increasing family debt, and lower levels of public debt (Royo 2009: 437). Only in the last two years of its first term did the Socialist administration focus more on supply-oriented measures. The 2006 and 2007 budgets increased spending in areas such as education, research and development, and infrastructure. The first worrisome signs of the imminent economic crisis began to appear in the last year (2008). Nevertheless, the Socialists were able to win the support of the majority of the electorate in the 2008 general elections.ⁱ

At the start of the second Socialist mandate the Government avoided recognizing the existence of the crisis (Martin & Urquizu 2012), thereby continuing their strategy of stimulating demand through government spending. However as the economic situation deteriorated, the economic crisis monopolized the political agenda. In May 2010, the Socialists launched an unpopular program of budgetary cuts (including major cuts in public spending) to combat deficits. The incumbent also embarked on far-reaching structural reforms, among them the labor market reform, which created an intense conflict with the trade unions. Finally, the 29th of September 2010 saw the first general strike against the government during its two consecutive mandates.

In clear contrast with the first Socialist mandate, the main opposition party (the PP) adopted a more passive strategy in hopes that the crisis would erode Socialist support up until the next general election (as clearly happened). Table 1 provides a summary of the main objective economic indicators during the two Zapatero mandates. Obviously, the economy performed well under the first mandate but poorly during the second. Additionally, there is a sharp decrease in the percentage declaring the intention to vote for the incumbent, especially from 2009 onward (see the last column of Table 1).

[TABLE 1 ABOUT HERE]

Did public perceptions of the economy reflect the economic reality? Figure 1 suggests that they did. It shows the evolution across the two consecutive Socialist mandates of the negative views about the present national economic situation (that is, the respondent percentage declaring that the present economic situation of the country is “bad” or “very bad”). As can be seen, there exists a clear trend of increasing negative opinion about the state of the economy. This increase is particularly dramatic during the second Socialist mandate, reaching striking levels (over 80% of those interviewed declaring that the present economic situation of the country is “bad” or “very bad”). Therefore we conclude that, at least across this period, Spanish public opinion about the economy reflect real economic trends. This demonstrates that the first necessary causal connection between economic perceptions and the vote - going from objective macro-economics to voter perceptions - is clearly present in the case of Spain.

[FIGURE 1 ABOUT HERE]

4. DATA

We analyze the 2008 and 2011 General Election Panel Surveys, conducted by the Centro de Investigaciones Sociológicas (CIS). These surveys compose a national probability sample, taking place in two waves. For 2008, in the first wave (CIS2750), face-to-face interviews were carried out January 21 to February 4 (one month before the general election on March 9 2008), with $N = 18,625$ adults, randomly sampled (within strata of the Spanish provinces). The second wave (CIS2757) was a random sample from the first wave sample, constituting a representative national sample. The interviews took place after the general election, from March 12 to May 12, and were

again face-to-face, for a total $N = 6855$ (interviewed in both waves). For 2011, in the first wave (CIS2915), face-to-face interviews were carried out from October 6 to October 23, with $N = 17,194$ adults, randomly sampled (within strata of the Spanish provinces). The second wave (CIS2920) was a random sample from the first wave sample, constituting a representative national sample. The interviews took place after the general election (on November 20 2011), from November 24 to January 15, and were again face-to-face, for a total $N = 7936$ (interviewed in both waves).

For the two elections, we use the sample interviewed in both waves, dubbing the first the pre-election wave, the second the post-election wave. More details about the sampling procedures appear in the technical report of the CIS (<http://www.cis.es>). For descriptive statistics on the variables used here, see the Appendix, Table A1.

5. INITIAL PANEL EVIDENCE (2008-2011)

Firm causal inference requires that X occur before Y , a criterion fulfilled by these panel data. Thus, we are able to explain vote at time t as a function of X at $t-1$, rather than the usual time t , as in a cross-section. As an analysis strategy, we estimate a standard specification of the Spanish general election vote (a standard specification that closely follows that of Maravall & Przeworski 2001, who examine the determinants of socio-demography, ideology, and national economic perceptions). Conceptually, the equation we estimate (with multinomial logit, MNL) reads,

$$\text{Vote} = f(\text{socio-demographics, political ideology, economic evaluation}) \text{ Eq.1.}$$

Vote (V) is a nominal variable with the following scoring: 1 = the incumbent party (PSOE both elections); 2 = the main opposition party (PP both elections); 3 = IU (the United Left); 4 = other (all remaining opposition parties, including nationalist parties); 5 = abstain. The socio-demographic (S) variables are the following - age, gender, education, class, religiosity – coded as noted at the foot of Table 2. The scoring of the ideology (I) and economy (E) variables are worth special mention. The former takes on values from the “extreme left” (0) to the “extreme right” (1), while the latter takes on values from “very bad” (0) to “very good” (1). Therefore, the expectation is that ideology will carry a negative sign and the economy will carry a positive sign (both expectations are because the Socialists are in power each contest). Furthermore, because both are scored on a 0-1 scale, their relative effects on the vote can be readily compared.ⁱⁱ

As a baseline, we first estimate Eq.1 in the conventional static way, measuring all variables at contemporaneous time, t:

$$V_t = f(I_t, E_t, S_t) \quad \text{Eq.2.}$$

The results of this estimation appear in Table 2 (columns 1 for 2008, and column 1 for 2011, respectively). Note that the reference category is the incumbent PSOE v. the main opposition PP, controlling on the other vote choices. The focus on this choice – PSOE v. PP – is dictated by their dominance of the electoral system. The coefficients of both ideology and economics are highly significant statistically, with the expected signs. Voters that lean more to the left are more likely to vote Socialist, while those more positive about economic performance are more likely to support the government.

[TABLE 2 ABOUT HERE]

What about the relative impact of economics and ideology? To answer this question, a dynamic specification is preferred, measuring the variables at different times.

$$V_t = f(I_{t-1}, E_{t-1}, S_t) \quad \text{Eq.3.}$$

The different estimates from the possible time specifications appear in Table 2 (columns 2 and 3 for 2008 elections, and columns 2 and 3 for 2011 elections, respectively).

Always the ideology and economy coefficients carry the expected sign and are significant. More to the point, how does the impact of the economy and ideology compare? That depends partly on the equation selected. Regarding the 2008 elections, we must first decide what time lag should be used. The revisionist argument holds that ideological identification and economic evaluation are hopelessly entangled when measured at the same time point. Therefore, logically it seems that the strongest test would be separation of the two variables by measuring them in two time periods, with ideology measured earlier (as the long-term force) and economy measured later (as the short term force). That is, a specification emphasizing Ideology $t-1$ and Economy t , which leads us to the results of Table 2 (column 3 for 2008), with an Ideology coefficient = -10.46 and an Economy coefficient of +3.21. With respect to the 2011 elections (see Table 2, column 3 for 2011), we find an Ideology coefficient = -8.93 and an Economy coefficient of +1.17. These coefficients yield an Ideology/ Economy ratio just over 3:1 in 2008 and 5:1 in 2011, which suggests relatively strong economic effects in 2008 and lower economic effects in 2011.

From a substantive point of view these initial results appear paradoxical, since the economy was by far the most salient topic in the 2011 electoral campaign (Martín & Urquizu 2012). Moreover, these results are in consonance with the revisionist argument deduced in the last part of the Section 2 above: the higher magnitude of the effect of the economy in 2008 in comparison to 2011 is not genuine. Rather, it is due to the greater degree of endogeneity of economic evaluations in 2008 when compared to 2011.

Put another way, there was more room for ideological bias in citizen views when the economy was relatively prosperous, with only the first signs of decline appearing. In such circumstances, rightist voters would supposedly be more negative than leftist voters (since the incumbent was a leftist party). The implication is that the economic voting found in the 2008 elections might be spurious. However, these panel results are only preliminary, because they fail to deal with the issue of reciprocal causation between ideology and economics, and the bias that that can produce. What happens when we take into account the endogeneity problem? Does the evidence on the existence of economic voting in the two elections vanish? Or vanish only in the case of 2008 election? Or not vanish at all?

6. ADDRESSING RECIPROCAL CAUSATION AND ESTIMATION BIAS

The analysis of Table 2 implies that the variables in question - ideology and economics - are both exogenous (i.e, stable, lasting, fixed). However, that characterization might be misleading. Perhaps these variables vary a fair amount over time, and from the influence of each other. That is, ideological thinking shapes economic thinking, and economic thinking shapes ideological thinking. If such is the case, then the two are endogenous to each other, and the estimates reported thus far are biased. Besides reciprocal causality, these are panel data, which bring with them the classic time series problem of serially correlated errors. Because determinants of a variable at time t are likely correlated with its determinants at $t - 1$, this produces its own estimation bias (Finkel 1995).

Hence the estimates of Table 2 may well suffer from two types of bias – due to reciprocal causation and correlated errors. A solution to both types of bias involves

rendering exogenous the offending variables – ideology and economy. A good explication of the method appears in Woolridge (2006). In the first stage endogenous variable Y , e.g., economy, is regressed on a set of truly exogenous variables, producing an instrumental variable, Y' . In the second stage, this Y' substitutes for the original Y in the estimation equation. The Y' coefficient, as estimated, will now have the desirable statistical property of consistency, because the variable Y' is built from exogenous variables. In deciding on the exogenous variables to be used, we employ socio-demographic and basic attitudinal measures.

With respect to ideology, we follow the instrumental variables strategy used to good effect in previous panel survey investigations of different Western European electorates (Bélanger et al. 2006; Costa Lobo & Lewis-Beck 2011; Lewis-Beck et al. 2008). We construct three different instrumental variables, reflecting three exogeneity conditions: strict (variables of religion, age, gender, education, income); moderate (the “strict” variables plus positional economic preference); broad (the “moderate” variables plus past vote for the incumbent government: PSOE). We examine different exogeneity conditions, because of the inevitable ambiguity surrounding their precise status. To take an example, at the first-stage this broad instrumental variable, I' , is built by regressing (OLS) ideology on the above listed variables. At the second stage, this instrument, I' , replaces the I in the original equation, now estimated with MNL.

In Table 3a the model is estimated with ideology variously exogenized, and with both it and the economics variable lagged, in order to take full advantage of the dynamic component of the panel. We observe that the coefficients of ideology and economics continue to be statistically significant and of the expected direction, regardless of the election year or specification. What about effects? The impact of economics appears fairly stable within a given election year, and again for 2008 that effect is a bit higher.

The ideology coefficient exhibits a fair amount of instability, depending on its exogeneity status. Let us focus on strict exogeneity conditions which, arguably, are more appropriate. For the 2008 election, the ideology/economy coefficient ratio is about 4:1 (11.07/2.57), something of a deterioration from the uncorrected data of Table 2. Regarding the 2011 election, the ideology/economic coefficient ratio is even smaller. In this case we see the first signs of a problem of statistical efficiency, since the ideology coefficient is very high (-18.07) but at the same time its associated standard error is so huge (7.11) that the coefficient reaches statistical significance only at a $p = 0.05$. In contrast, the economy coefficient appears fairly stable and robust (+1.49) and with a low associated standard error.

[TABLE 3A ABOUT HERE]

However, a serious contention is that economic perceptions, since they are short term, should not themselves be lagged. Therefore, we redo the analysis in Table 3b, with economics *not* lagged. If we now look at the same ratio, ideology v. economics under strict exogeneity conditions (column 3 in 2008), then it is near 3:1 (10.14/3.66), a number very close to what we got with Table 2 (column 3 in 2008). An implication is that, even when ideology is rigorously exogenized, the economic impact remains strong and undiminished. This is true for both 2008 and 2011 elections.

[TABLE 3B ABOUT HERE]

A remaining difficulty concerns the status of economic perceptions. It would be useful to exogenize them as well. Here our choices of instruments are more limited, so the three scenarios – broad, moderate, strict – are not possible.ⁱⁱⁱ Still, we can build a respectable exogenous economic perception variable with what we have: income, age, gender, home mortgage, political interest, and personal *post-election* financial

circumstances. Table 4 shows the fully dynamic model re-estimated, with ideology and economics lagged and exogenized.

[TABLE 4 ABOUT HERE]

First, note that all coefficients remain statistically significant and in the expected direction, regardless of specification or year. Further, observe that the economics coefficient remains stable under varying conditions. Within either year it fluctuates within a small range: for 2008 [+1.66 to +2.63]; for 2011 [+2.96 to +3.89]. Indeed, the economics coefficient shows more comparative stability than the ideology coefficient, i.e., respectively, for 2008 [-9.33 to -23.33]; for 2011 [-10.87 to -19.12]. With respect to relative effects, we find that the ideology/economics ratio, under strict conditions, is about 3.5:1 for 2008 (i.e., $9.3/2.6$). Interestingly, that gets us back to about the same estimate we began with, in Table 2 (column 3 in 2008), of 3:1. With respect to the 2011 election, we find that again the ideology coefficient is very high (-13.98) but at the same time its associated standard error is so huge (7.28) that the coefficient reaches statistical significance only at a $p = 0.05$. In contrast, the economy coefficient appears fairly stable and robust (+3.89) and with a low associated standard error. Thus, the ideology/economics ratio ($13.98/3.89$) for 2011 falls near 3:1, not far from the 2008 ratio.

These results have two important implications for the revisionist argument. First, after accounting for the endogeneity problem, the significance of the economic variable is clear for both elections, thereby confirming that the initial results were not spurious. The economic vote is alive and well in Spain. Second, despite the apparent weakness of the 2011 economic coefficient according to preliminary estimates (see Table 2), these later statistically preferred estimates suggest the economic effect on the vote appears relatively equivalent for both elections.

Besides comparing the raw MNL economics coefficient with the ideology coefficient directly, we might also examine the change in probability of voting for the incumbent (in both elections PSOE) versus its main opposition (PP in both years), as the values of these two independent variables change. These simulation exercises, carried out on our preliminary equations (Table 2) and on our final equations (Table 4), are summarized in Table 5.

[TABLE 5 ABOUT HERE]

Let us focus on the three equations of Table 4 (see the corresponding probability predictions in the last two columns of Table 5). Starting with Equation 1 (that contains the broad ideology instrument), after setting all the other X values at their mean, the predicted incumbent probability changes as follows: for 2008, economy = .22 to .63 = 41 points difference; for 2011, .09 to .28 = 19 points difference in 2011. How do these effects compare to changes in ideology?

Carrying out the same exercise with ideology, moving it from minimum (extreme left) to maximum (extreme right), yields the following: for 2008, .97 to .01 = 96 points difference; for 2011, .88 to .01 = 87 points in 2011. However, the magnitude of the effect of ideology in comparison to the economy diminishes greatly in Equation 2 (that contains the moderate ideology instrument), especially so in Equation 3 (containing the strict ideology instrument). For instance, in Equation 3 the predicted incumbent probability changes as follows: in 2008, economy = .17 to .70 = 53 points difference in 2008; in 2011, .12 to .37 = 25 points difference in 2011; for 2008, ideology = .64 to .21 = 43 points difference; for 2011, .55 to .03 = 52 points in 2011.

We see, then, that the substantive conclusions about economic voting extracted from Tables 2-4, based on a comparison of the raw coefficients, remain similar, in that both exercises give considerable strength to the economy. Finally, if we confine ourselves to

the strictest exogeneity conditions (see Table 5, looking at Equation 3 and the last two columns), we observe that the effect of economy actually exceeds that of ideology in 2008 (53 points v. 43 points), while ideology exceeds economics in 2011 (52 points to 25 points). Again these results go against the revisionist expectations as the existence of the economic vote is clear in both elections.

In sum, overall, by various tests and measures, economic voting appears relatively strong in 2008, robust against various challenges. With respect to 2011, there is still a potent effect, although it appears weaker, largely due to a methodological artifact (that is, a lack of statistical efficiency). The reason for this apparent lesser impact of 2011 is the very restricted variance in economic opinion in that year, with the overwhelming majority of voters seeing the in poor shape. Specifically, almost every one saw the economy as bad or very bad – the mean for 2011 is only .27, compared to .52 in 2008. (See the descriptive statistics in Table A.1 of the Appendix).

7. ECONOMIC CRISIS AND THE RESTRICTED VARIANCE PROBLEM

Clearly, these Spanish citizens are economic voters. But the restricted variance in perceptual evaluation of the economy, caused by the economic crisis, poses a methodological problem in assessing that economic vote for 2011. There is a way around this restricted variance problem (RVP), one which allows demonstration of the full magnitude of the economic voting in 2011. We can adopt an alternative exogenizing strategy, building on another investigation of Spanish elections (Fraile & Lewis-Beck, 2012).

First, we pool all post-election surveys carried out by the Center for Sociological Research (CIS) since 1982, totaling nine elections.^{iv} Then, for each election year, we

employ a perceptual economic variable, but measured at the aggregate level. This new aggregated economic variable becomes part of the model specification, replacing its individual counterpart. More specifically, we graft the percentage who think the economy is “doing well” onto the individual respondents in each election survey. This constitutes then a purely exogenous variable, created outside the internal world of the individual voter. (This measure receives external validation partly from the fact that Spanish public opinion closely tracks real economic trends, as seen in comparing Table 1 and Figure 1). As a further check, we also graft onto the individual survey respondents another global, but objective, measure of the real economy: GDP per capita growth (for the election year).^v The model for this estimation, using these aggregate economic measures, is as follows:

$$\text{Vote} = (\text{socio-demographics, political ideology, and economics}) \quad \text{Eq.4}$$

The model of Eq.4, estimated as a binomial logit (vote for the incumbent versus main opposition), appears in Table 6. At the bottom of the table, the details on variable measurement are given. While the socio-demographic variables of age, education, and gender are entered as interval measures, social class and ideology are specified categorically. Each of the variables necessarily has also an interaction term with incumbency (since their effect is obviously different depending on whether the incumbent is PP or PSOE, e.g., if the incumbent is socialist a left voter is more likely to support it.)

[TABLE 6 ABOUT HERE]

Each economic variable carries a properly signed coefficient that easily reaches statistical significance at the highest level (.001). When the economy deteriorates, subjectively or objectively, the incumbent party loses votes for the whole period under analysis (1982-2011). What is the magnitude of these gains or losses in 2011,

compared to elections under years of economic prosperity? We take the 2000 elections, when the economy was clearly doing well, as a point of comparison. First consider Equation 1 in Table 6, which includes the aggregate subjective economy measure, at each election year level (i.e., the variable labeled retrospective positive economic views). If we set each of the independent variables at their mean, the predicted probability of an incumbent vote for this first equation is equal to 0.59. However, when the percentage of positive subjective views is around 35% (as in the 2000 elections, see Table A.2 in the Appendix) the predicted probability of an incumbent vote rises to 0.70. In contrast, when this percentage drops to 1.45% (as in the 2011 elections, see Table A.2 in the Appendix) the predicted probability of an incumbent vote falls to 0.47. This leads to a difference in the percentage vote for the incumbent between 2000 and 2011 of 23 percentage points. In other words, the quality of the economy makes a large difference in incumbent support. The bad times of 2011, in comparison to the good times of 2000, cost the incumbent dearly.

The same relative magnitude of the economic effects appears if we consider the impact of the GDP measures. Consider its equation in Table 6, which specifies the GDP growth per capita (% change) at the election year. If we set each of the independent variables at their mean, the predicted probability of an incumbent vote for this third equation is again equal to 0.59. When GDP growth per capita (% change) is 6.44% (as it was in 2000 elections, see Table A.2 in the Appendix) the predicted probability of an incumbent vote rises to 0.66. In contrast, when this percent change drops to 0.13% (as in 2011 elections, see Table A.2 in the Appendix) the predicted probability of an incumbent vote decreases to 0.47. Thus, the expected difference in the percentage vote for the incumbent, between 2000 and 2011, is 19 percentage points (not far from estimated impact from the subjective economic measure give above).

To sum up, this simulation exercise, based on the pooled results of Table 6, suggests that the economy, measured subjectively or objectively, has an important aggregate impact on incumbent support. Further, this alternative empirical strategy for exogenizing the economy allows demonstration of its effects in 2011, when the economic crisis was so deep that variance in economic opinion measured at the individual level was very restricted. This restricted variance problem (RVP) can occur across democratic countries, posing a methodological artifact making it difficult to properly estimate the economic vote, and its effects. Thus, we offer this alternative exogeneity strategy, which works well in the Spanish case. We claim that this alternative could be profitably used with other election surveys, when the contest takes place within the context of a sharp economic crisis, such as now affects a number of European countries.

8. CONCLUSIONS

This study considers a controversial topic in the economic voting literature: the instability of the economic vote. We look at two related factors that help to explain such instability: first the endogeneity problem of the subjective economic evaluations, and second, the changing context of the economic situation. By studying the two most recent (and less studied) elections in Spain we demonstrate that, after careful statistical tests for causality, economic evaluation has a strong effect on vote choice in Spain. Moreover, that effect stays strong, when compared to the effect of ideology. While ideology still holds pride of place, serving as the most important variable anchoring the Spanish electorate in the long-term, economic evaluation remains a powerful short-term anchor, exercising a potent force sometimes rivaling that of ideology.

A remaining question concerns the relative stability of the economic voting from election to election. We have observed here that economic effects appear to drop from 2008 to 2011 (a pattern especially clear in probabilities of Table 4). Why does this occur? We believe that this reduced impact is only apparent, a methodological artifact, due to the restricted variation of economic opinion in 2011, i.e., almost everyone saw the economy as bad, making it difficult to obtain a strong association between the economy and the vote. A similar case of this RVP shows up in the United States presidential election of 2008, when almost everyone (94%) thought the economy was bad. This condition produces a fainter correlation with vote choice, but in fact many people voted against the incumbent Republicans because the economy was in terrible shape (Lewis-Beck & Nadeau 2009).

In sum, the apparently lessened economic effects in 2011 do not necessarily mean that economic voting is less, or that the incumbent government will not be punished for a bad economic performance. It simply means that we need to change the empirical strategy to estimate the magnitude of the effect of the economic voting. Our claim is that, to assess this impact dynamically, one needs time-pooled data. This is what we have done in the last part of the empirical analysis presented here. The results of this pooled estimation confirm the relevance of economic voting in Spain, and the true strength of the economic impact on the 2011 election. Of course, this methodology can be used comparatively, offering a strategy to estimate economic voting in other countries facing elections in a context of a sharp economic crisis, such as the one occurring the 2011 Spanish Elections.

REFERENCES

- Anderson, C. J. (2007). The end of economic voting? Contingency dilemmas and the limits of democratic accountability. *Annual Review of Political Science* 10: 271-296.
- Bélanger, E., Lewis-Beck, M., Chiche, J. & Tiberj, V. (2006). Party, ideology, and vote intentions: Dynamics from the 2002 French electoral panel. *Political Research Quarterly* 59(4): 503-515.
- Belluci, P & Lewis-Beck, M. (2011). A stable popularity function? Cross-national analysis. *European Journal of Political Research* 50(2): 190-211.
- Costa Lobo, M. & Lewis-Beck, M. (2011). Anchoring the Portuguese voter: Panel dynamics in a newer electorate. *Political Research Quarterly* 64(2): 293-308
- Duch, R. (2007). Comparative studies of the economy and the vote. In C. Boix & S. Stokes (eds), *Oxford handbook of comparative politics*. Oxford: Oxford University Press: 805-844.
- Duch, R. & Stevenson, R. (2010). The global economy, competency, and the economic vote. *The Journal of Politics* 72(1): 105-123.
- Duch, R. & Stevenson, R. (2008) *The economic vote: How political and economic institutions condition election results*. Cambridge University Press, Cambridge.
- Duch, R. & Stevenson, R. (2006). Assessing the magnitude of the economic vote over time and across nations. *Electoral Studies* 25(3): 528-47.
- Evans, G. & Andersen, R. (2006). The political conditioning of economic perceptions. *Journal of Politics* 68(1): 194-207.
- Field, B. N. (2009). Minority government and legislative politics in a multilevel state: Spain under Zapatero. *South European Society & Politics* 14(4): 417-434.
- Finkel, S. E. (1995). *Causal analysis with panel data*. Sage. Sage University Papers, No 105, Thousand Oaks.

- Fraile, M. & Lewis-Beck, M. (2010). Economic voting in Spain: A 2000 panel test. *Electoral Studies* 29(2): 210-220.
- Fraile, M. & Lewis-Beck, M. (2012). Economics and elections in Spain (1982-2008): Cross-Measures, cross-time. *Electoral Studies* 3(3): 485-490.
- González, J. J. (2002). Las elecciones generales de 2000: Voto ideológico/voto racional. *Revista Internacional de Sociología* 32: 7-33.
- Gunther, R., Sani, G & Shabad, G. (1986) *Spain after Franco: the making of a competitive party system*. University of California Press, Berkeley.
- Hellwig, T. (2010). Elections and the economy. In L. LeDuc, R. G. Niemi & P. Norris (eds), *Comparing democracies 3: Elections and voting in global perspective*. London: Sage: 184-201.
- Ladner, M. & Wlezien, C. (2007). Partisan preferences, electoral prospects, and economic expectations. *Comparative Political Studies* 40(5): 571-596.
- Lewis-Beck, M. (2006). Does economics still matter? Econometrics and the vote. *The Journal of Politics* 68(1): 208-12.
- Lewis-Beck, M. S. & Nadeau, R. (2000). National economic voting in US presidential elections. *Journal of Politics* 63(1): 159-181
- Lewis-Beck, M. S. & Nadeau, R. (2009). Obama and the economy in 2008. *PS: Political Science & Politics* 42: 479-48.
- Lewis-Beck, M. S., Nadeau, R. & Elias, A. (2008). Economics, party, and the vote: Causality issues and panel data. *American Journal of Political Science* 52(1): 84-95.
- Lewis-Beck, M. S., & Stegmaier, M. (2000). Economic determinants of electoral outcomes. *Annual Review of Political Science* 3: 183-219.

- Lewis-Beck, M. S., & Stegmaier, M. (2007). Economic models of the vote. In R. Dalton & H. Klingemann (eds), *The Oxford handbook of political behavior*. Oxford: Oxford University Press: 518-537.
- Maravall, J. M. & Przeworski, A. (2001). Political reactions to the economy. In S. Stokes (ed), *Public support for market reforms in new democracies*. Cambridge: Cambridge University Press: 35-76.
- Markus, G. B. (1988) The impact of personal and national economic conditions on the presidential vote: A pooled cross-sectional analysis. *American Journal of Political Science*. 32(1): 137-54.
- Markus, G. B. (1992). The impact of personal and national economic conditions on presidential voting, 1956-88. *American Journal of Political Science*. 36(4): 829-34.
- Martin, I. & Urquizu-Sancho, I. 2012. The 2011 general election in Spain: The collapse of the Socialist Party. *South European Society and Politics*. 17(2): 347-363.
- Nadeau, R. Lewis-Beck, M. & Bélanger, E. (2013). Economic and elections revisited. *Comparative Political Studies*. On line first: 10.1177/0010414012463877
- Nannestad, P. & Paldam, M. (1994) The VP function: A survey of the literature on vote and popularity functions after 25 years. *Public Choice* 79(3-4): 213-45.
- Powell, G. B. & Whitten, G. D. (1993). A Cross-national analysis of economic voting: Taking account of the political context. *American Journal of Political Science*. 37(2): 391-414.
- Royo, S. (2009). Reforms betrayed? Zapatero and continuities in economic policy. *South European Society & Politics* 14(4): 435-454.
- Van der Eijk, C., Franklin, M. Demant, F. & van der Drug, W. (2007). The endogenous economy: 'Real' economic conditions, subjective economic evaluations and government Support. *Acta Politica* 42: 1-22.

Wooldridge, J. M. (2006). *Introductory econometrics: A modern approach*, Third Edition. OH: Thomson/South-Western, Mason.

Table 1. Objective economic indicators and Voting Intention for the Incumbent in Spain (2004-2011)

Years	Annual Growth (% change)	Inflation rate	Unemployment rate	Voting Intention for the Incumbent
2004	3.26	3.05	10.97	27.08
2005	3.58	3.38	9.16	36.50
2006	4.07	3.56	8.51	29.50
2007	3.47	2.84	8.26	29.10
2008	0.88	4.13	11.32	30.90
2009	-3.74	-0.23	18,01	29.30
2010	-0.07	2.04	20,06	24.60
2011	0.71	3.05	21.63	21.50

Source: International Monetary Fund, World Economic Outlook Database, April 2012 edition (<http://www.imf.org/external/pubs/ft/weo/2012/01/weodata/index.aspx>) and Centro de Investigaciones Sociológicas (CIS) for voting intention

Figure 1. Negative Views about the Economy. Spain 2004-20011

Source: Our elaboration from Centro de Investigaciones Sociológicas, Indicadores de la situación económica (www.cis.es). Figures give the percentage of those interviewed declaring the present economic situation to be “bad” or “very bad”.

Table 2. Preliminary Panel Estimates (Multinomial Logit). Spain 2008-2011 ^a

	2008			2011		
	1	2	3	1	2	3
Ideology (t) ^b	-15.14** (.47)			-13.17** (.38)		
Ideology (t-1)		-10.43** (.37)	-10.46** (.37)		-8.87** (.31)	-8.93** (.30)
Economy (t)	2.84** (.19)		3.21** (.17)	1.17** (.16)		1.17** (.14)
Economy (t-1)		1.79** (.14)			1.26** (.12)	
Age	.009** (.00)	.008** (.00)	.007** (.00)	.015** (.00)	.013** (.00)	.014** (.00)
Male	-.42** (.10)	-.32** (.09)	-.41** (.09)	-.32** (.09)	-.39** (.08)	-.37** (.09)
Education	-.72** (.23)	-.59** (.19)	-.57** (.20)	-.23 (.21)	-.24 (.19)	-.18 (.19)
Social Class:						
New middle class	.21 (.18)	.11 (.15)	.14 (.16)	.24 (.18)	.16 (.16)	.13 (.16)
Old middle class	-.03 (.19)	-.10 (.17)	-.02 (.17)	.09 (.19)	-.01 (.18)	.03 (.18)
Skilled manual worker	.32* (.18)	.45** (.16)	.45** (.16)	.23 (.18)	.24 (.17)	.22 (.16)
Unskilled manual worker	.52** (.21)	.56** (.18)	.67** (.19)	.40* (.20)	.43* (.19)	.38* (.18)
Religiosity	-.21** (.04)	-.27** (.04)	-.29** (.04)	-.23** (.04)	-.35** (.04)	-.34** (.04)
Intercept	6.02** (.35)	4.51** (.29)	3.92** (.30)	4.74** (.31)	3.02** (.28)	3.19** (.28)
Pseudo-R-sq.	0.27	0.19	0.21	0.23	0.18	0.18
N	5195	5182	5195	5399	5441	5339

Source: For 2008 CIS2750-2757 (panel sample) and for 2011 CIS2915-2920 (panel sample)

** = statistical significance, .01; * = statistical significance, .05; two-tailed tests. Figures in parentheses are standard errors.

^a Dependent variable = 1 Vote for the incumbent (PSOE in both elections), 2 Vote for PP (main opposition party), 3 Vote for IU, 4 Else, 5 Abstention; Only the coefficients among the two main parties are shown.^b Independent variables: Ideology = from 0 (extreme left) to 1 (if extreme right); Economy = From 0 (very bad national economic conditions) to 1 (good and very good national economic conditions); Age = in years; Male = 1 for male, 0 for female; Education = from lowest (0) to highest (1); For Social Class self-employed is the category of reference; Religion = from 0 (no religion) to 4 (maximum attendance to church, more than weekly)

Table 3a. Exogenous Ideology (lagged), Economic Perception (lagged), and the Vote: Panel Tests (Two-Stage, Multinomial Logit Estimates). ^a Spain 2008-2011

	(1)			(2)			(3)		
2008									
Economy (t-1) ^b	1.96	(.15)	**	2.40	(.13)	**	2.57	(.12)	**
Ideology ^y (t-1, broad x) ^c	-22.42	(.78)	**						
Ideology ^y (t-1, mod x)				-10.20	(1.51)	**			
Ideology ^y (t-1, strict x)							-11.07	(2.35)	**
Controls (not shown) ^d									
Intercepts (not shown)									
Pseudo-R-sq.	.20			.10			.09		
N	4875			4875			4857		
2011									
Economy (t-1) ^b	1.41	(.13)	**	1.50	(.11)	**	1.49	(.11)	**
Ideology ^y (t-1, broad x) ^c	-18.97	(.63)	**						
Ideology ^y (t-1, mod x)				-11.88	(1.59)	**			
Ideology ^y (t-1, strict x)							-18.07	(7.11)	*
Controls (not shown) ^d									
Intercepts (not shown)									
Pseudo-R-sq.	.16			.09			.08		
N	5093			5093			5441		

Source: For 2008 CIS2750-2757 (panel sample) and for 2011 CIS2915-2920 (panel sample)

** = statistical significance, .01; * = statistical significance, .05; one-tailed tests. Figures in parentheses are standard errors.

^a Dependent variable = 1 Vote for the incumbent (PSOE), 2 Vote for PP, 3 Vote for IU, 4 Else, 5 Abstention; Only the coefficients among the two main parties are shown.

^b the economy variable is measured as in Table 1.

^c the instrumental variables: Ideology' t-1 (strict x) = a "strictly" exogenous ideology variable, an instrument constructed from the following variables:; Religion (from 0 for not attending church at all to 5 times a week); Age = in years; Gender (1 for male and 0 for female); Education = from lowest (0) to highest (1) and Income (in quartiles) where the lowest (first) quartile is the category of reference; Ideology' t-1 (mod x) = a moderately exogenous ideology variable, an instrument constructed from the foregoing variables in the strict construction, plus Economy (Positional) = From 0 (in favor of paying more taxes) to 1 (against paying more taxes)

Ideology' t-1 (broad x) = a broadly exogenous party identification variable, an instrument constructed from all the foregoing variables, plus reported vote to the incumbent (PSOE) in the previous elections (2004 for the case of 2008, and 2008 for the case of 2011) (1 = voted for the incumbent PSOE, 0 = else)

^d these socio-demographic control variables of age, gender, education, religiosity, and social class are measured as in Table 2.

Table 3b. Exogenous Ideology (lagged), Economic Perception (not lagged), and the Vote: Panel Tests (Two-Stage, Multinomial Logit Estimates). ^a Spain 2008-2011

	(1)			(2)			(3)		
2008									
Economy (t) ^b	3.15	(.17)	**	3.55	(.15)	**	3.66	(.15)	**
Ideology' (t-1, broad x) ^c	-22.11	(.79)	**						
Ideology' (t-1, mod x)				-9.46	(1.55)	**			
Ideology' (t-1, strict x)							-10.14	(2.42)	**
Controls (not shown) ^d									
Intercepts (not shown)									
Pseudo-R-sq.	.22			.11			.11		
N	4883			4883			5195		
2011									
Economy (t) ^b	1.27	(.15)	**	1.26	(.13)	**	.82	(.19)	**
Ideology' (t-1, broad x) ^c	-19.11	(.63)	**						
Ideology' (t-1, mod x)				-12.17	(1.56)	**			
Ideology' (t-1, strict x)							-16.49	(7.03)	*
Controls (not shown) ^d									
Intercepts (not shown)									
Pseudo-R-sq.	.16			.08			.07		
N	5071			5071			5399		

Source: For 2008 CIS2750-2757 (panel sample) and for 2011 CIS2915-2920 (panel sample)

** = statistical significance, .01; * = statistical significance, .05; one-tailed tests. Figures in parentheses are standard errors.

^a Dependent variable = 1 Vote for the incumbent (PSOE), 2 Vote for PP, 3 Vote for IU, 4 Else, 5 Abstention; Only the coefficients among the two main parties are shown.

^b the economy variable is measured as in Table 1.

^c the instrumental variables: Ideology' t-1 (strict x) = a "strictly" exogenous ideology variable, an instrument constructed from the following variables:; Religion (from 0 for not attending church at all to 5 times a week); Age = in years; Gender (1 for male and 0 for female); Education = from lowest (0) to highest (1) and Income (in quartiles) where the lowest (first) quartile is the category of reference; Ideology' t-1 (mod x) = a moderately exogenous ideology variable, an instrument constructed from the foregoing variables in the strict construction, plus Economy (Positional) = From 0 (in favor of paying more taxes) to 1 (against paying more taxes)

Ideology' t-1 (broad x) = a broadly exogenous party identification variable, an instrument constructed from all the foregoing variables, plus reported vote to the incumbent (PSOE) in the previous elections (2004 for the case of 2008, and 2008 for the case of 2011) (1 = voted for the incumbent PSOE, 0 = else)

^d these socio-demographic control variables of age, gender, education, religiosity, and social class are measured as in Table 2.

Table 4. Exogenous Ideology, Exogenous Economic Perception, and the Vote: Panel Tests (Two-Stage, Multinomial Logit Estimates) ^a

	(1)	(2)	(3)
2008			
Economy ' t-1 ^b	1.66 (.48) **	2.31 (.41) **	2.63 (.40) **
Ideology' t-1 (broad x) ^c	-23.33 (.79) **		
Ideology' t-1 (mod x)		-10.97 (1.48) **	
Ideology' t-1 (strict x)			-9.33 (2.32) **
Controls (not shown) ^d			
Intercepts (not shown)			
Pseudo-R-sq.	.20	.08	.07
N	4788	4788	5082
2011			
Economy ' t-1 ^b	3.58 (1.05) **	2.96 (.93) **	3.89 (.92) **
Ideology' t-1 (broad x) ^c	-19.12 (.63) **		
Ideology' t-1 (mod x)		-10.87 (1.58) **	
Ideology' t-1 (strict x)			-13.98 (7.28) *
Controls (not shown) ^d			
Intercepts (not shown)			
Pseudo-R-sq.	.16	.07	.07
N	5040	5040	5383

Source: For 2008 CIS2750-2757 (panel sample) and for 2011 CIS2915-2920 (panel sample)

** = statistical significance, .01; * = statistical significance, .05; one-tailed tests. Figures in parentheses are standard errors.

^a Dependent variable = 1 Vote for the incumbent (PSOE), 2 Vote for PP, 3 Vote for IU, 4 Else, 5 Abstention; Only the coefficients among the two main parties are shown. The complete multinomial results (for all the categories of the dependent variable) are given in Appendix 2. (See the corresponding estimation for each table and equation).

^b Economy' t-1 = an instrumental variable for national economic evaluation in the pre-election questionnaire, constructed from the following variables: Personal post-election economic evaluations (from 0-very bad to 1-very good); Income (in quartiles, where the lowest –first quartile- is the category of reference); Age = in years; Gender (1 for male and 0 for female); Interest in politics (from 0-no interested- to 1-very much interested) ; Paying a mortgage for the house (1 for those still paying and 0-for those not paying)

^c the ideology instruments are constructed as in Table 3a and Table 3b.

^d the socio-demographic control variables are measured the same as in Table 3a and Table 3b.

Tables 5. The Magnitude of the Effect of Ideology and Economy on the vote under different estimation conditions. Probabilities of having voted for the incumbent (PSOE) versus its main opposition (PP). Spain (2008-2011)

	(Table 2)		(Table 4)	
	2008	2011	2008	2011
Equation 1				
Baseline probability	0.50	0.20	0.48	0.19
Ideology:				
0 (extreme left)	0.76	0.59	0.97	0.88
1 (extreme right)	0.01	0.00	0.01	0.01
Economy:				
0 (very bad)	0.25	0.17	0.22	0.09
1 (very good)	0.72	0.38	0.63	0.28
Equation 2				
Baseline probability	0.49	0.22	0.49	0.25
Ideology:				
0 (extreme left)	0.75	0.51	0.67	0.41
1 (extreme right)	0.01	0.01	0.12	0.05
Economy:				
0 (very bad)	0.32	0.17	0.19	0.13
1 (very good)	0.66	0.38	0.69	0.35
Equation 3				
Baseline probability	0.38	0.23	0.48	0.25
Ideology:				
0 (extreme left)	0.74	0.52	0.64	0.55
1 (extreme right)	0.01	0.00	0.21	0.03
Economy:				
0 (very bad)	0.21	0.19	0.17	0.12
1 (very good)	0.74	0.40	0.70	0.37

Source: Our elaboration on results of Tables 2 (first two columns) and 4 (last two columns)

Table 6. Vote for the Incumbent versus its main Opposition in Spain (1982-2011).
Pooled Data

Variable	(1)	(2)	(3)
Incumbent (1= PSOE, 0 = Conservative)	2.09*** (0.24)	1.86*** (0.24)	1.89*** (0.24)
When incumbent is conservative:			
Age	0.016*** (0.00)	0.017*** (0.00)	0.017*** (0.00)
Gender	0.22** (0.08)	0.21** (0.07)	0.21** (0.07)
Education	0.30*** (0.06)	0.32*** (0.06)	0.30*** (0.06)
Social Class:			
Service class	0.03 (0.15)	0.01 (0.15)	0.04 (0.15)
White collar	-0.07 (0.13)	-0.08 (0.13)	-0.06 (0.13)
Skilled manual worker	-0.53*** (0.12)	-0.56*** (0.12)	-0.59*** (0.12)
Unskilled manual worker	-0.43*** (0.12)	-0.41*** (0.12)	-0.42*** (0.12)
Ideology:			
Extreme left	-3.64*** (0.34)	-3.72*** (0.34)	-3.80*** (0.34)
Left	-2.85*** (0.11)	-2.91*** (0.11)	-2.95*** (0.11)
Right	2.56*** (0.12)	2.62*** (0.12)	2.64*** (0.12)
Extreme right	3.17*** (0.23)	3.24*** (0.23)	3.24*** (0.23)
DK/DA	0.33*** (0.07)	0.28*** (0.07)	0.20*** (0.07)
When incumbent is PSOE:			
Age* Incumbent	-0.01*** (0.00)	-0.02*** (0.00)	-0.02*** (0.00)
Gender* Incumbent	-0.36*** (0.10)	-0.34*** (0.09)	-0.35*** (0.10)
Education * Incumbent	-0.72*** (0.07)	-0.75*** (0.07)	-0.61*** (0.09)
Social Class:			
Service Class * Incumbent	0.51** (0.18)	0.54** (0.18)	0.47** (0.18)
White Collar * Incumbent	0.63*** (0.16)	0.66*** (0.16)	0.68*** (0.16)
Skilled Manual * Incumbent	1.50*** (0.15)	1.55*** (0.15)	1.63*** (0.15)
Unskilled Manual * Incumbent	1.34*** (0.15)	1.31*** (0.15)	1.27*** (0.15)
Extreme left * Incumbent	5.18*** (0.36)	5.19*** (0.36)	5.35*** (0.35)

Left * Incumbent	5.29*** (0.13)	5.28*** (0.13)	5.39*** (0.13)
Right * Incumbent	-5.59*** (0.15)	-5.61*** (0.15)	-5.66*** (0.15)
Extreme right * Incumbent	-6.89*** (0.27)	-6.93*** (0.27)	-7.02*** (0.27)
Retrospective positive economic views	0.03*** (0.00)		
GDP growth per capita (% change)			0.12*** (0.01)
Unemployment rate		-0.03*** (0.00)	
Constant	-1.85*** (0.21)	-0.94*** (0.21)	-1.88*** (0.20)
LR Chi 2	13557.42***	13451.46***	13546.92***
PseudoR ² (McFadden)	0.52	0.52	0.53
Percent predicted	86	86	86
N	18838	18838	18838

Source: the survey data are pooled from CIS post electoral surveys. The GDP data are from the International Monetary Fund- World Economic Outlook Database, April 2012 edition

Coefficients were estimated through Binomial logit. Figures in parentheses are robust standard errors

The dependent variable is the incumbent vote dichotomy (1 = incumbent party: PSOE in 1986, 1989, 1993, 1996, 2008, and 2011 elections; UCD in 1982 elections; PP in 2000 and 2004 elections; 0 = Vote for the main opposition party: PP in 1986, 1989, 1993, 1996, 2008, and 2011 elections; PSOE in 1982, 2000, and 2004 elections)

Independent variables are coded as follows: Incumbent party (1= PSOE. socialist party. 0 = PP or UCD. conservative parties) Age = in years; Gender = 1 for men; Education (0= no education. 1= primary. 2= secondary. 3 = university); For Social Class self employed is the category of reference; Ideology (0= extreme left. 1= left. 2= centre. 3= right. 4= extreme right. and 5= do not know or no answer). centre is the category of reference.

*** = statistical significance. .001 ** = statistical significance. .01; * = statistical significance. .05; two-tailed tests.

Appendix. Table A.1. Descriptive Statistics of the Variables used in the estimations of Tables 2 to 4

Variable	2008					2011				
	N	Mean	sd	min	max	N	Mean	Sd	min	max
Declared vote	5462	2.23	1.47	1	5	5503	2.68	1.44	1	5
Ideology (t)	6083	.41	.18	0	1	6082	.43	.20	0	1
Ideology (t-1)	6083	.40	.19	0	1	6082	.44	.21	0	1
Economy (t)	5978	.52	.31	0	1	6051	.27	.33	0	1
Economy (t-1)	5981	.52	.28	0	1	5998	.15	.28	0	1
Age	6083	47.12	18.12	18	97	6082	47.76	17.65	18	95
Gender	6083	.48	.49	0	1	6082	.48	.49	0	1
Education	6061	.39	.29	0	1	6056	.40	.29	0	1
Social class	5886	3.06	1.29	1	5	6082	3.30	1.69	1	9
Religion	6042	1.53	1.29	0	4	6061	1.43	1.25	0	4
Income	6083	3.12	1.51	1	5	6082	2.93	1.53	1	5
Economy (Positional)	5673	.39	.23	0	1	5656	.43	.24	0	1
Declared vote in previous election	6083	.39	.49	0	1	6082	.34	.47	0	1
Personal economy	5990	2.11	.75	0	3	6000	1.88	.83	0	3
Political Interest	6056	1.04	.88	0	3	6065	1.07	.92	0	3
Paying a mortgage	5956	.32	.47	0	1	6082	.32	.47	0	1

Source: For 2008 CIS2750-2757 (panel sample) and for 2011 CIS2915-2920 (panel sample)

Table A.2 Objective and Subjective Economic Measures at the Aggregated (election year) level used in the estimations of Table 6

Year of election	Positive views about the economy*	Unemployment rate	GDP growth per capita (% change)
1982	2.70	15.77	7.92
1986	2.90	20.91	5.41
1989	8.36	17.24	8.76
1993	1.99	22.64	0.65
1996	14.00	22.08	4.12
2000	34.78	13.87	6.44
2004	28.34	10.97	4.24
2008	25.08	11.32	2.14
2011	1.45	21.65	0.47

* The percentage surveyed who say the nation's general economic situation is "good or very good." or a variant of that wording.

Sources: CIS for subjective indicators and International Monetary Fund, World Economic Outlook Database, April 2012 edition for objective indicators

NOTES

ⁱ The PSOE obtained 43.6% of the total vote with 169 seats whereas the PP obtained the 40.1% of the total vote with 154 seats in the 2008 general elections that took place in March 9 (source: www.elecciones.mir.es).

ⁱⁱ The two main variables of this study (ideology and economic evaluations) have been re-coded so that they can vary from 0 (the minimum value of the original variable) to 1 (the maximum value of the original variable). Therefore, each logit coefficient gives the effect of one unit change of the independent variable (say, for example, ideology) on the dependent variable (the log of the probability of voting for the incumbent). After this re-coding, one unit change now has a meaning: going from the minimum value of the independent variable (in this case, extreme left) to the maximum value of the same variable (in the example, extreme right). Hence, the coefficient estimates capture the maximum effect of each explanatory variable on the log odds of voting for the incumbent. In sum, the recoding amounts to a simple and comparable metric transformation of the original variables.

ⁱⁱⁱ Unfortunately, none of the two panel surveys used here contain additional variables that can be considered truly exogenous, and not overly related to respondent ideology or declared vote.

^{iv} That is: 1982, 1986, 1989, 1993, 1996, 2000, 2004, 2008 and 2011 National Elections

^v We have tried alternative economic measures such as percentage unemployment rate change with respect to previous year, inflation rate, percentage inflation rate change with respect to previous year, and annual percentage change of GDP growth. All of them turned out to be statistically significant and with the expected sign (negative for all indicators of inflation and unemployment and positive with all variants of GDP growth).