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Contextual Effects on the Individual Rationality: Economic Conditions and Retrospective Vote.

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Leticia Cañedo y Olivia Pérez han prestado una invaluable ayuda en el desarrollo de los modelos estadísticos que son la base de este trabajo. Los participantes en el seminario de Política y Gobierno de la División de Estudios Políticos del CIDE hicieron comentarios invaluables a esta trabajo.

Abstract

Despite all the methodological problems in defining the proper variables and methods to estimate it, an association between economic perceptions and vote choice in the expected sense seems to be a regular feature of voting behavior. Nonetheless, there is important instability among elections and countries that tends to be attributed to methodological flaws or contextual differences. Two basic research questions are addressed in this paper: the weakness and instability in the effects of the economic retrospective vote (ERV) is factual or methodological, that is, it results from contextual differences among elections and countries or it results from measurement errors and bias in the models used? Do differences in the general economic contexts of countries explain variation in the effects of the ERV? The data used in this paper come from 29 post electoral surveys taken in 26 countries, as part of Module 1 of the Comparative Study of Electoral Systems. Vote choice and economic perceptions are nested or clustered within the specific economic contexts of the polities where they are expressed. Multilevel models are geared towards the statistical analysis of data that have a hierarchical or clustered structure. These are the statistical models used in this paper. The models produce negligible and unstable estimates of the effects of economic perceptions on vote choice, and no testable explanations of variance among countries associated with economic contextual variables. These findings seem to be the consequence of insufficiently specified variables and models.

Resumen

La relación entre las percepciones de los individuos sobre el estado de la economía y su voto (ERV por sus siglas en inglés) parece ser una característica recurrente del comportamiento del votante. Sin embargo, esta relación es muy inestable tanto en elecciones como en países. La inestabilidad tiende a atribuirse a fallas metodológicas en el análisis o a los efectos de diferencias contextuales. En este trabajo se analizan dos preguntas básicas: ¿la inconsistencia y debilidad de los efectos del voto económico retrospectivo (ERV) es una característica que de hecho existe?, esto es, ¿es el resultado de diferencias contextuales entre elecciones y países, o resulta de errores de medición o sesgos fuera de control de los modelos utilizados para su análisis?, ¿las diferencias en los contextos económicos generales de los países explican las variaciones de los efectos del ERV? Los datos utilizados provienen de 29 encuestas poselectorales levantadas en 26 países como parte del Modulo 1 del Comparative Study of

Electoral Systems*. El voto y las percepciones individuales sobre la economía se dan en el contexto de cada nación. Los modelos multinivel, que se utilizaron en este trabajo, están diseñados para el análisis estadístico de datos que tienen una naturaleza agrupada o jerárquica. Los modelos aplicados produjeron estimadores muy pequeños e inestables de los efectos de las percepciones económicas en el voto y no aportaron explicaciones sobre la varianza entre países de esta relación asociada a variables económicas contextuales. Estos hallazgos parecen resultar de variables y modelos pobremente especificados.*

Introduction

"To support the Ins when things are going well; to support the Outs when things seem to go badly, this, in spite of all that has been said… is the essence of popular government" (Lippmann 1925: 126). Given that in any situation the alternatives lead to various benefits (in some probabilistic fashion), but entail various costs, individual chooses to maximize the expected benefits and minimize the expected costs. Voters "typically have one comparatively hard bit of data: they know what life has been like during the incumbent's administration. They need not know the precise economic foreign policies of the incumbent administration in order to see or feel the *results* of those policies" (Fiorina 1981:5).

Most likely, the perception of well-being of the individual that makes popular government work is based on economics. Non surprisingly, economic retrospective vote (ERV) —also known as the economic function of vote— figures as one of the most visited questions in the vast area of vote choice research (See Norpoth 1991). The basic question is to what extent and how the real or perceived economic situation of voters sways vote choice, particularly between incumbent and non incumbent parties or candidates. From an aggregate level perspective, it implies that if economic conditions are good, incumbent parties will be ratified in government, and they will be kicked-out of office if the economy is bad. From an individual level perspective, it implies that it is more likely that any citizen will vote against the incumbent party if she thinks her economic situation have worsened and if she thinks that the economic drop can be attributed to the government's handling of the economy.

ERV has been studied using aggregate electoral outcomes and national economic data, and individual level data obtained with surveys. In the first kind of studies, the electoral outcomes define the dependent variable in various forms: the relative changes in vote received by the incumbent party or coalition in time (Powell and Whitten, 1993); the percentage change in vote received by the dominant party of the coalition (Royed, Leyden and Borrelli, 2000); the difference of relative votes received by a party in *t-1* and *t* for one party (Paldam, 1991); the number of seats won for Congress or Parliament by all parties (Lewis-Beck and Mitchell, 1990). The most common independent variables used have been employment, economic growth and inflation (Lewis-Beck and Paldam, 2000).

In the studies based on individual level data, vote choice of the respondent is the dependent variable. The independent dimension is the respondent's opinion about economic conditions, either their immediate, direct, personal economic situation (egotropic or pocketbook), or the general conditions of the economy (sociotropic or altruistic). In most cases, respondents compare the national or her personal economic situation to a previous one, given a time span, most commonly, last year's.

Country specific studies based on aggregate national level data document extreme unstable results among elections. Paldam (1991) studied 17 Western industrial countries including USA over 40 years and finds a highly unstable vote function within specific countries, and among them. Powell and Whitten (1993) studied 19 countries analyzing a broader number of economic variables with no more encouraging results. The largest study on ERV based on individual level data (Duch and Stevenson, 2004) studies a total of 89 elections in almost all Western democracies of industrialized countries between 1980 and 2001. They conclude that ERV exists in developed democracies, but varies among countries. In sum, whenever more country specific elections are studied the signs of economic effects seem faint at best.

ERV then, seems a voting behavior theory well based on common sense and that stands on solid bases of traditional and Downsian models and, nonetheless, academic research has found that the association between macroeconomic conditions or individual economic perceptions and electoral outcomes or vote choice seems to be present in most elections, but it is modest in magnitude, too weak to account for the aggregate level effects, unstable among elections and countries and, in some cases, inconsistent with findings of well documented aggregate-level effects. (Kramer 1983, Duch and Stevenson 2004).

Many reasons have been offered for this inconsistency between the empirical findings and a reasonable hypothesis. Most of them argue around the information and uncertainty related to individual and contextual features. For individuals to engage in optimizing behavior, that is, for voters to act maximizing the net benefit of their voting decision, one has to assume that they act under complete certainty, perfect information and zero decision-making costs. This is not always the case. Voters might by myopic in their economic judgments and fall to the enticing offers of irresponsible politicians that seem to solve immediate economic hardships postponing its costs. Voters might be blind when attributing responsibility on economic affairs, punishing or rewarding governments for acts over which they do not have real control, like international economic crises or natural disasters (Achen and Bartels 2002). Most likely, variations in the individual and the contextual factors that influence these assumptions explain the observed weakness and variation in the net effect of economic perceptions on vote choice. Features such as different levels of political sophistication among individuals, or clarity of responsibility about economic outcomes among political systems should

explain variance in the influence of economic percpetions on vote choice. Uncertainty about what individuals know about the government's performance or expected behavior of candidates and parties must discount the expected influence of economics on vote.

However, the strongest arguments about the difficulties to document ERV are based on methodological flaws. Despite the extreme care that the research based on data of National or group economic performance places in no advancing individual level inferences, in the end it is always doomed to incur in ecological inferences, since the associations between economics and vote are the consequence of individuals optimizing in one way or another their vote choice. And, nonetheless, one can hardly ignore the possibility of contextual effects on the individual behavior. Two main methodological problems plague the individual level analysis, on the one hand, the seriously intermingled relations between the dependent variable (vote choice) and the independent variables (economic perceptions), and between the independent variables themselves, and on the other hand, the aggregation problem implicit in the fact that government's induced changes are a contextual "constant" acting over individual variant perceptions.

In a seminal work, Kramer (1983) questioned the very reliability of the variables used to measure economic perceptions or the specification of the statistical models used to document the association between economics and vote choice. Individual level data can be analyzed at the individual level or using their aggregate mean values. Kramer, and more recently Erikson (2004), demonstrates that the individual level analysis of survey data leads to spurious inferences about the ERV because both the dependent and the independent variables are basically endogenous. Governments have an influence on macro economic variables, and therefore can only produce variations in income at the national level. Drops in the national economic situation do not necessarily distribute equally among all. So, "lucky" voters who do not favor the incumbent party do not have any incentive to vote against it. On the other side, even those affected by the national negative change in the economy, would not vote against the incumbent if they are strong partisans. That is, this contextual effects result in a situation where "cross-sectional variation in perceptions of the economy is little more than measurement error plus partisan bias" (Erikson 2004: 37). So, "the individual-level cross-sectional estimate … is hopelessly contaminated. It depends only tenuously on the true parameter value and in general is so badly and unpredictably biased as to be essentially unrelated to the underlying individual-level behavioral relationship we are trying to estimate" (Kramer 1983: 93). Therefore, the correct signals are better captured by the mean values of the variables, and it is the aggregate evidence what can yield valid inferences.

The argument against the use of individual-level cross-sectional estimates because of the intense endogenous relations between variables is strong and

founded. The idea that the correct signals are better captured by the mean values of the variables involved in the model instead of the individual level is not. Every cross-sectional analysis is done with some form of OLS models which are based on central trend estimates, that is, some form of aggregation of individual level data. So, in the end it does not make much difference to use aggregate means or individual level data. The problem is that using aggregate mean values results in limited number of cases, short time-series for country-specific studies or limited number of truly comparable survey data for comparative research, and therefore, in strong weakness of the statistical methods available. So, it is advisable to try to control the bias produced in individual level analysis introducing in the models the endogenous variables, mostly socio-demographic indicators and party identification (Party Id). I will explore results both from aggregate means and individual-level data controlling for intervening variables

Vote choice and economic perceptions are nested or clustered within the specific economic and institutional contexts of the polity where they are expressed. So, most findings suggest that contextual effects should influence individual behavior, and that most likely these contextual effects explain some of the variance among elections and polities in the association between economics and vote. That is, one has to find proper methods to explain individual behavior embedded in specific contexts. Multilevel models are geared towards the statistical analysis of data that have a hierarchical or clustered structure.[1] To account for this micro-macro relationship, I will use random-effects logistic multilevel models with random intercept and random retrospective economic evaluations, where individual is the first level and country-election the second. Hierarchical models explain variance in the individual-level data, like the traditional linear regression models, but they also explain variance among the estimated coefficients related to contextual variables. This technique reconciles the dilemma between the use of individual-level data and mean value aggregates, since the estimates within countries are based on individual-level data (which might produce bias estimates to some degree), but the country-level comparisons are based on aggregate estimates. This is the main point of interest of this paper.

Summing up, there seems to be a reasonable consensus in the literature in the idea that, despite all the methodological problems in defining the proper variables and methods to estimate it, an association between economic perceptions and vote choice or vote outcomes in the expected sense seems to be a regular feature of voting behavior. The strong instability observed among elections and countries tends to be attributed to contextual differences. Before Duch and Stevenson (2004), most of this research was based on

[1] These models are also known as contextual models, hierarchical linear models, hierarchical regression, random coefficients models, mixed hierarchical linear models, or linear Bayesian models, depending on the statistical technique used. Cf. Bryck and Raudenbush 1992, Rasbach *et. al* 2002.

national aggregate data (economic variables and electoral outcomes) instead of individual cross-sectional survey data, so that all inferences on individual level behavior were weak or definitely not sustainable. On the other hand, almost all comparative studies have been done on elections in Western developed democracies and industrialized economies. All are richer and more stable economies, so no comparisons between richer and stable economies, and poorer and unstable economies can be done.

Two basic research questions are addressed in this paper: the weakness and instability on the effects of the ERV is factual or methodological, that is resulting from measurement errors and bias in the models used or it is a real feature of voting behavior? Do contextual differences in the general economic conditions among systems explain variation in the ERV?

In this paper I use a large data set that has at least some variability in the political and economical contextual dimensions, and more pertinent statistical methods are explored to study the micro-macro relationship.

The micro-macro relationship

The entire ERV model rests in the assumed rationality of individuals when evaluating retrospectively the effects of the government's actions on their well-being and what they can expect of the competing candidates and parties. Fiorina (1981 pp. 65-83) clearly developed the model of this rationale.

Assume there are two parties I and C. I is the incumbent and C the challenger. The voter's decision rule is: voter chooses I instead of C if her evaluation of the incumbent is equal or better than the expected performance of the challenger. The evaluation has two clearly defined dimensions, retro and prospective, and also entails an implicit retrospective evaluation of the opportunity cost of having chosen I over C, and the expected opportunity cost of voting for C. Many factors ponder the utility function that each individual estimates with regard to the incumbent's performance and the likely opportunity cost of this known event over the unknown likely performance of the opposition. The relative weigh each individual gives to the retrospective over the prospective evaluations varies among individuals, probably depending on their attitudes towards risk.

The system level features also vary among nations and this contextual characteristics necessarily affect the way voters consider retrospective and prospective evaluations. For instance, economic stability reduces risk, and multi party systems enhance choices. Other intervening factors are the different value individuals give to the government's responsibility on their well-being or in the level of certainty they have about their retrospective evaluation and the likely performance of the challenger. The individual's relative attribution of responsibility depends on individual-level variables such as personal political competence or efficacy, but also has to do with macro

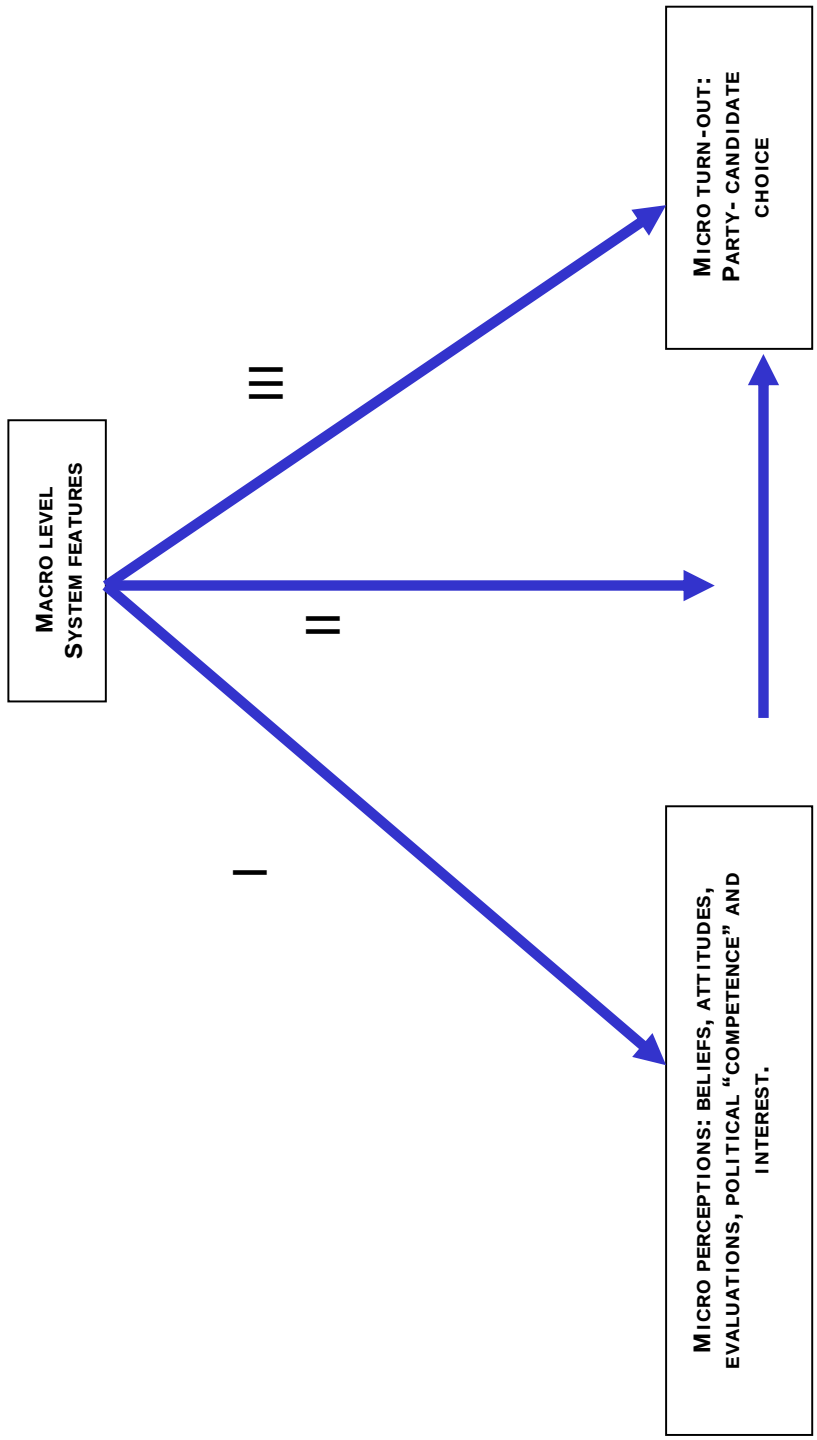
features, such as the "clarity of responsibility" of the system, and the structure of the media system, in particular, how it primes economic events. A dictatorship can produce absolute clarity of responsibility, but a controlled media system limits both the actual knowledge of relevant events, and above all, the attribution of responsibility. In any case, the model considers prospective perceptions, but it is essentially retrospective because past performance is taken as a shortcut for the prospective evaluation, and Party Id is a judgment based on performance.

The micro-macro relationship is essential for the understanding of rational individual vote choice. First, because the understanding of these relationships reconciles the seemingly unexplainable fact that inattentive and ill-informed voters poorly suited for wise democratic decisions seem to behave as rational collective actors. "The key to the micro-macro discrepancy is that aggregation accentuates the orderly. One can have an electorate in which large numbers of citizens act as if at random and other large numbers have unchanging loyalties that commit them to the same side for a lifetime —and yet still observe in the aggregate response an orderly response to real political events. When we aggregate over time, those who act as if at random cancel out. Those who act always the same produce no variance. The aggregate 'signal' arises almost wholly from those who are orderly in their behavior. The important misconception is that the normal typical individual attributes dominate the aggregate. They do not. When individuals are disorderly or constant over time, then their attributes contribute trivially to the movement of the whole" (Erikson, McKuen and Stimson 2002: 6). Second, context is relevant because " ... the types (of) institutional environments in which they (social actors) interact constrain the set of mental models upon which collective action can be based" (Denzau and North 2000).

ERV assumes that the individual economic perceptions are a necessary condition of vote choice, but they are not independent of the contextual, macro or system level influences (See Figure 1). The macro level features can have an effect on the individual perceptions (I in Figure 1), for instance, strategic calculus in voting is very different under a simple plurality system, than in PR. System features can affect the relationship between individual features and vote choice (II in Figure 1). For instance, the uncertainty about the likely performance of contenders expressed in the history of the party system, which itself is strongly associated with electoral rules, affects the vote choice. Macro characteristics of the system can modify the way economic conditions influence vote choice (III in Figure 1). For instance differences in economic size or in the number of electoral choices can produce a very different response to changes in economic conditions.

FIGURE 1

CONTEXT AND INDIVIDUAL BEHAVIOR. MICRO-MACRO INTERACTION.



A central purpose of this paper is to explore models that capture the individual level influences and the system level contextual effects. In the first part, individual level effects will be analyzed, and in the second part economic features.

Data and testable hypothesis

The data used in this paper come from 29 post electoral surveys taken in 26 countries, as part of Module 1 of the Comparative Study of Electoral Systems.[2] See Table 1. The Comparative Study of Electoral Systems (CSES) is a collaborative program of cross-national research among election studies conducted by 2004 in over fifty states. The CSES is composed of three tightly linked parts: First, a common module of public opinion survey questions is included in each participant country's post-election study. These "micro" level data include vote choice, candidate and party evaluations, current and retrospective economic evaluations, evaluation of the electoral system itself, in addition to standardized socio-demographic measures. Second, district level data are reported for each respondent, including electoral returns, turnout, and the number of candidates. Finally, system or "macro" level data report aggregate electoral returns, electoral rules and formulas, and regime characteristics. Only rigorous sampling, collection and reporting methods are accepted. This ensures comparability among national samples.[3] Table 1 describes the characteristics of each National sample. This design allows researchers to conduct cross-level, as well as cross-national analyses, addressing the effects of electoral institutions on citizens' attitudes and behavior, the presence and nature of social and political cleavages, and the evaluation of democratic institutions across different political regimes.

Individual variables

The dependent variable is vote choice for the incumbent candidate or coalition. One if respondent voted for the incumbent, cero otherwise.

[2] Module one was applied in 34 country-elections. Nine of them, corresponding to six countries, could not be included in this study. I had to exclude Belgium Flanders and Belgium Wallon 1999 because one of them did not report the Party Id question. Perú 2000 and 2001 because of unreliability of the data. Switzerland 1999 and Hong Kong 1998 and 2000 because of the difficulties in defining the macro institutional variables. Lithuania 1997 because they did not ask the questions to estimate political information of the respondent, and Thailand 2001, because they did not report vote choice.

[3] Even though all samples are comparable in terms of their representativity, at least two factors should be considered. First, a likely interviewing method effect. Not all countries used the same field method to collect the data, basically face to face and telephone interviewing. Second, the selection method of respondents. In the first case, many country specific studies points to negligible effects, and in the second case, differences in the actual standard errors of the means should be considered. Non fully random selection of respondents in the unit of interviewing results in somewhat larger standard errors.

Table 1. Comparative Study of Electoral Sytems. List of country-elections

	A1003 TYPE OF ELECTION				A1022 STUDY TIMMING			A1023 MODE OF INTERVIEW			
	Parlamentary / Legislative	Parlamentary/ Legislative and presidential	Parlamentary/ Legislative and prime minister	Presidential	1. 1. POST-ELECTION STUDY	2. 2. PRE-ELECTION AND POST-ELECTION STUDY	3. 3. BETWEEN ROUNDS OF MAJORITARIAN ELECTION	Personal	Telephone	Self-administred (mail and in person, but self-administered)	Combination of phone and mail
Australia	X				1798					1798	
Belarus		X			1000			1000			
Canada	X				1851						1851
Chile				X			1173	1173			
Taiwan		X			1200			1200			
Czeck Republic	X					1229		1229			
Denmark	X				2001			2001			
Germany	X				2019				2019		
Hungary	X						1525	1525			
Iceland	X				1631				1631		
Israel			X		1091				1091		
Japan	X					1327		1327			
Korea	X				1100			1100			
Mexico	X				2033			2033			
Mexico		X			1766			1766			
Netherlands	X					2101		2101			
New Zealand	X				4080					4080	
Norway	X				2055			2055			
Poland	X				2003			2003			
Portugal	X				1303			1303			
Romania		X			1175			1175			
Russia	X					1842		1842			
Russia				X		1748		1748			
Slovenia	X				2031			2031			
Spain	X				1212			1212			
Spain	X				1208			1208			
Sweden	X				1157			759	398		
Ukraine	X				1148			1148			
Great Britain	X				2897					2897	
USA		X				1534		777	757		

Economic perceptions

Which dimension of the economy is relevant to voters when choosing among parties or candidates, their immediate, direct economic situation (egotropic or pocketbook), or the general conditions of the economy (sociotropic or altruistic)? With very few exceptions, most agree that voters asses and respond to economic conditions in altruistic or sociotropic manner, that is, thinking in what is good for the country as a whole, rather than motivated by their immediate pocketbook interest (Kinder and Kiewiet 1979, Lewis-Beck and Paldam, 2000). Kramer (1983) demonstrated that this commonly accepted academic distinction between sociotropic and pocketbook evaluations of the economy is irrelevant. To the extent that people might vote according to their personal pocketbook, they should consider only government induced changes to their economic fortunes. Since, in general, only a small portion of personal income can be attributable to government actions, people's reports of net change in personal fortune present a distortion of the small impact of government on their lives. Because survey reports of net income change are poor measures of government-induced change, the effect of government-induced change should be underestimated by surveys. The individual level cross-sectional analysis of ERV yields poor estimates whereas aggregate estimates of the individual data are reasonably successful in estimating the net effect of economic circumstances on vote choice. But once the individual level estimates either of ego or sociotropic perceptions are aggregated and their mean values used, "there is simply no way of determining … whether the observable relationships between economic variables and voting were ultimately generated by sociotropic or self-interest behavior or by some combination of the two" (Kramer 1983:106).

The CSES data have only the sociotropic evaluation of economic conditions in two ways, the evaluation of the economy at the time of the interview, and compared to the situation 12 months before. Respondents report if they think the conditions of the economy are better or worse now of what they were 12 months ago. In most cases I used the second option, because a time frame is defined, and because it yields better statistical estimates than the general evaluation. Two variables were defined, one for good or improved economic conditions, and one for bad or worsened. The variable for better economic conditions at the time of the interview is coded 1 if the respondent thinks the economy is better, cero otherwise. The perception of decline is 1 if the respondent thinks that the economy worsened in the last 12 months, cero otherwise. In most models, the middle response (the same or no change), was either ignored because of its underlying ambiguity, it is impossible to know if it is a positive or negative assessment, or was used as reference variable in the logistic models.

Two major lines of research dominate the study on how partisanship affects ERV. On the one hand, the hypothesis that bad economic performance results in an ERV against the incumbent, regardless of the political orientation of all contenders, the so called responsibility hypothesis. On the other, those who consider that ideology and issue orientation of parties are important intervening factors. Leftist parties are kicked out when unemployment rises, and rightist parties when inflation grows, precisely because those are the issues more closely linked to their expected performance. Carlsen (2000) finds that rightist government's survival and popularity are associated in the long run with unemployment. With regard to the influence of inflation on the leftist parties the association is not that clear. Leftist parties have been harmed by inflation in the USA and Canada, but not in Great Britain and Australia. Palmer and Whitten (2000) also find this mediating effect of Party Id on ERV, but contrary to Carlsen's findings.

The CSES micro-level data offer a measure of Party Id and its intensity. There are some differences among countries in the concept used to measure Party Id. The English wording suggested by the Planning Committee was "Do you usually think of yourself as *close* to any particular political party?" Some local experts suggested *sympathy* as an alternative concept, more appropriate for their country. The variable is coded in such way that the highest it is its value the more intense is the identity of the respondent with the incumbent party, one if the respondent identifies with other than the Incumbent, two if the respondent has no identity with any party or alliance, three when the respondent identifies with the incumbent not closely, four if the respondent identifies with the incumbent somewhat, and five if the respondent identifies with the incumbent very closely. In the case of coalitions, the Party Id of the incumbent is whatever identity is reported for any of the parties participating in the coalition.

Party Id is an attitude that varies between elections and countries, the socio-demographic variables correspond to population parameters. Gender, age, education, income, employment status and Party Id are used as control variables. The comparability between socio-economic variables demands the most careful coding and definitions. To avoid differences of definition, education and income are coded in deciles. Employment status is coded following the local expert definition.

Models and results

Individual level variance

The most important task in defining the statistical models to asses ERV effects is to find the specification that uses the value of large representative samples

of individual behavior, and at the same time fully accounts for context or macro level variation.

Using the entire data base of the 29 country-elections, a simple cross-tabs analysis shows that ERV exists in the group of countries studied, but mostly as a punishment reaction to bad perceived economic conditions: 70% of those who think the economic conditions worsened in the last 12 months choose a non-incumbent party, coalition or candidate. Those who think the economic conditions improved divided their preferences between incumbent and non incumbents. The cross-tab produces a significant chi-squared suggesting a strong association between economic perceptions and vote for the incumbent. But this finding must be taken with some reserve, the Chi square test is significant because the actual number of voters with positive economic perceptions that prefer the incumbent is substantially larger than the expected for the association test.

If all individuals are properly weighted (see Annex 1) and put together as one unit of analysis (34,580 cases of respondents who expressed an opinion about economic conditions), a simple logistic regression model of the relation between economic perceptions and vote choice should be sufficient to estimate ERV effects. One expects to find the probability of a voter choosing the incumbent depending on her perception of the economy, independently of where she lives. Such a model produces significant estimators and with the expected sign, β_{worst} = -0.2679; β_{better} = 0.5977. Party Id can be introduced to asses its relative importance and "discount" its effects on vote choice. This would at least take into account the likely endogenous relationship between partisanship and economic perceptions and vote choice. The coefficients are significant and with the right sign: β_{worst} = -0.1703; β_{better} = 0.4284. Nonetheless, Party Id effects are by far more important than economic perceptions. They are significant and grow as Party Id with the incumbent is more intense. The Party Id effects go from 2.0512 to 5.1868 as the level of identification with the incumbent intensifies.

These models do not fully account for the problems associated with the endogenous relation between Party Id, vote choice and economic perceptions, or the inference problems implicit in estimating effects of the invariant macroeconomic variables and the variant individual perceptions. To control for these, Kramer and Erikson recommend the use of mean values. We can simply take the mean value of the positive and negative economic perceptions and see if there is covariance with vote choice for the incumbent or, if sufficient data are available, apply a simple OLS logistic regression with vote choice as a dependent variable, and mean values of the economic perceptions as independent. If the estimators are significant and they have the expected sign, we can conclude that ERV exists, regardless of variation among countries. We can also expect that the endogeneity problems of Party Id, and the implicit ecological inferences that result from using individual-level accounts of economic perceptions are avoided, because we use aggregate

mean values. A simple OLS regression with the percentage vote for the incumbent as dependent variable, and the mean value of the economic perceptions as independent variables reveals a coefficient of -0.24 when voters think the economic situation worsened, of almost cero when voters think the economic situation is the same, and 0.17 for those who see improvement. These coefficients show a significant variance among countries, but one must keep in mind that they are estimated with only 29 points

These models do not account for variation between countries that is, variation in contexts. The logistic regression model of the relationship between individual economic perceptions and vote choice for the incumbent was run separately for each country. The results are shown in Table 2. In four country-elections voters punished or rewarded the incumbent according to their economic perception. In six, they only rewarded the incumbent, and in five they only punished it. Two cases show inconsistent results, bad economic perceptions lead to vote for the incumbent, and in the remaining 12, no significant coefficients were obtained.[4] ERV prevails in most of the CSES Module 1 country-elections, but it is not a consistent feature of voting behavior. I any case, ERV seems to be a regular feature of electoral behavior but, again, we have not identified contextual effects.

[4] Models explain a good deal of variance, most probably because Party Id is included. R-squared have a minimum of 0.17 and a maximum of 0.87.

TABLE 2

ERV BY COUNTRY-ELECTION

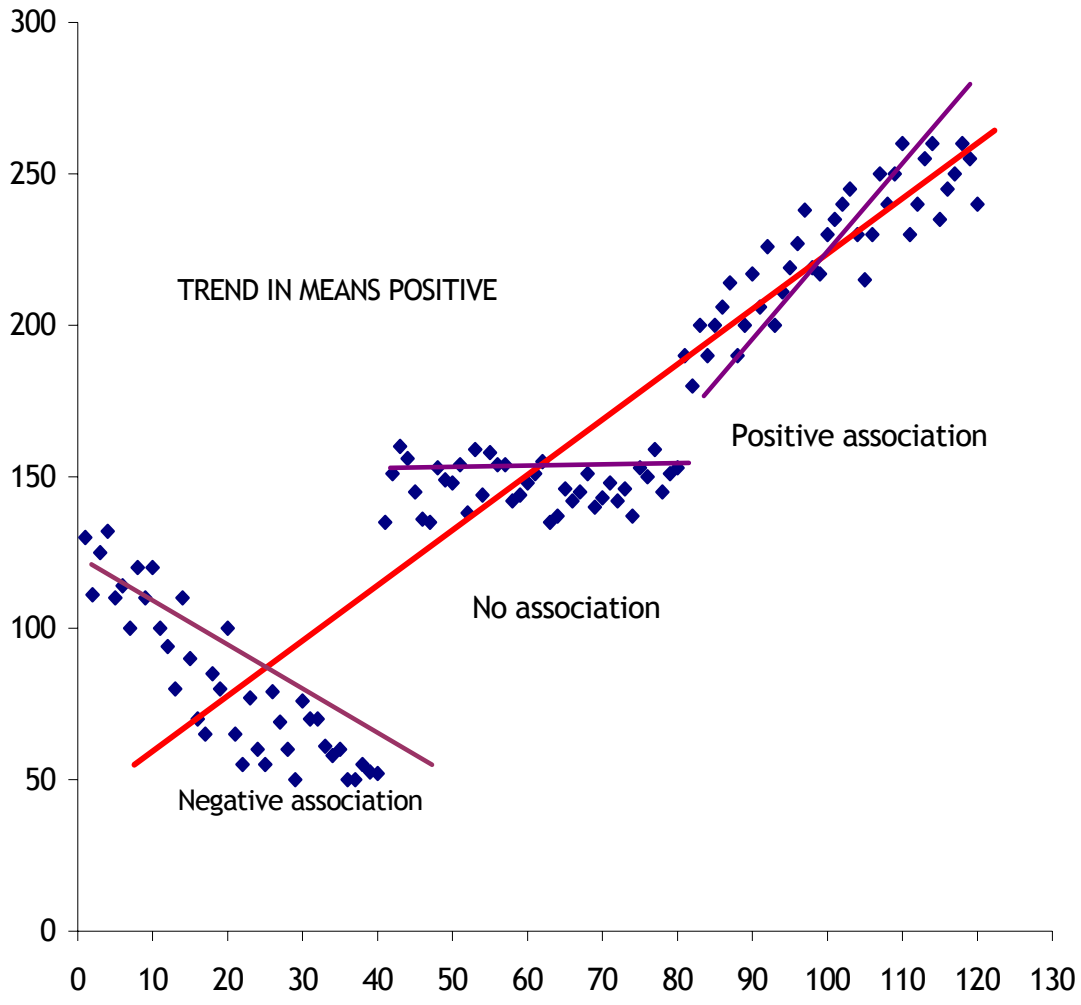
ONLY PUNISHMENT	R^2	WORST	SIG	BETTER	SIG
NEW ZEALAND 1996	0.65	-1.09		0.3634	NS
ROMANIA 1996	0.408	-0.9533		0.5056	NS
RUSSIA 2000	0.166	-0.6978		0.3527	NS
GERMANY 1998	0.513	-0.6533		0.2297	NS
SPAIN 1996	0.423	-0.4336		-0.1992	NS
REWARD ONLY					
ISRAEL 1996	0.623	0.323	NS	1.217	
SPAIN 2000	0.786	-1.1459	NS	1.0879	
HUNGARY 1998	0.806	-0.5646	NS	1.01	
POLAND 1997	0.639	-0.3076	NS	0.6927	
UNITED STATES 1996	0.638	0.1346	NS	0.5749	
NETHERLANDS 1998	0.595	-0.4324	NS	0.5414	
REWARD AND PUNISH					
AUSTRALIA 1996	0.623	-0.323		1.217	
BELARUS 2001	0.786	-1.1459		1.0879	
GREAT BRITAIN 1997	0.806	-0.5646		1.01	
CZECK REPUBLIC 1996	0.639	-0.3076		0.6927	
NO ERV					
CANADA 1997	0.739	-0.3903	NS	0.2794	NS
KOREA 2000	0.385	0.092	NS	-0.4367	NS
DENMARK 1998	0.869	-0.6325	NS	0.0393	NS
SLOVENIA 1996	0.674	0.5455	NS	1.2883	NS
ICELAND 1999	0.698	-0.1669	NS	0.4386	NS
JAPAN 1996	0.452	-0.0893	NS	-0.1419	NS
MÉXICO 1997	0.598	-0.3958	NS	0.1681	NS
NORWAY 1997	0.728	-1.0677	NS	-0.7439	NS
PORTUGAL 2002	0.68	-0.3199	NS	-0.3448	NS
SWEDEN1998	0.758	-0.1718	NS	-0.0903	NS
TAIWAN 1996	0.324	-0.4354	NS	0.1094	NS
UKRAINE 1998	0.612	-0.2173	NS	-1.0011	NS
STRANGE CASES					
MEXICO 2000	0.51	0.432		0.4427	NS
RUSSIA 1999	0.74	0.8594		0.3462	NS

Contextual effects in the individual level variance

In this section I will test multilevel models. They find the specified parameters of the micro-level as a function of context, or they show that the micro-macro relation can be expressed in terms of the contextual characteristics of the macro-level. When the individual data are clustered and analyzed in a simple model, the estimated coefficients would assume a non variant constant for the entire data set, ignoring the likely variance implicit in the constant. See Figure 2. A fixed-effects model with interactions for context would improve the specification quality of the model. This model controls for context differences but the contextual variables can only be introduced through interactions with individual level variables and, in the end, we cannot assess how much each variable contributes to the change in the effect of ERV among countries.

Figure 2

Fixed effects-
Random effecs



A random-effects logistic multilevel model with random intercept and random ERV, where individual is the first level and country-election the second would allow to estimate the coefficients of the individual level relationship, and decompose the variance of the dependent variable within the variance of context, and the variance among contexts. The form of the model is:

$$\log\left(\frac{\pi_{ij}}{1-\pi_{ij}}\right) = \beta_{1i} + \beta_{2i}(\text{ec. worse})_{ij} + \beta_{3i}(\text{ec. better})_{ij} + \beta_4(\text{context})_i + \beta_5(\text{controls})_{ij}$$

$$\beta_{1i} = \beta_1 + u_{1i},\ \beta_{2i} = \beta_2 + u_{2i}, \beta_{3i} = \beta_3 + u_{3i}$$

$$u_{1i} \approx N(0, \sigma^2_{u1}),\ u_{2i} \approx N(0, \sigma^2_{u2}),\ u_{2i} \approx N(0, \sigma^2_{u3})$$

We control for unobserved differences in context with an intercept that is random at the country level ($B_{1i} = B_1 + u_{1i}$). No dummy variables are needed, and we can measure the effect of contextual variables without interaction effects. The model can measure the contribution of individual and contextual variables to the variation in the dependent variable (σ^2_{u2} and σ^2_{u3}). Where each u_i is a random component of the estimated coefficient with a normal distribution. If the variance in u_i is not zero, the coefficient is different between countries.

In Table 3 the results of five models are shown.[5] No specific data about the country is introduced, except its identifier. We can assume that all country specificities are subsumed in this simple variable. In the first column, the simplest model with no individual level control variables is shown. In the last, the most robust model with only significant variables is presented.

[5] The goodness of fitness tests for these models are similar to those used for the regular one level models, basically association between expected values and residuals. The software used, MlwiN, estimates fitness tests for continuous dependent variables, but not for binomial variables, so I could not present them in the Tables of results, except for the standard errors for each estimated coefficient.

TABLE 3

ERV FOR THE INCUMBENT. MULTILEVEL RANDOM EFFECTS MODEL WITH CONTROL VARIABLES.

VARIABLES		MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5
ECONOMY IN THE LAST 12 MONTHS	SAME (REFERENCE VAR.)					
	WORST	-0.57 (0.11)	-0.58 (0.11)	-0.42 (0.11)	-0.42 (0.11)	-0.41 (0.19)
	BETTER	0.6 (0.11)	0.63 (0.11)	0.45 (0.1)	0.44 (0.1)	0.45 (0.1)
GENDER	FEMALE		-0.13 (0.03)	-0.16 (0.04)	-0.15 (0.04)	-0.15 (0.04)
AGE	24 OR LESS (REFERENCE VAR.)					
	25 – 60		0.24 (0.05)	0.15 (0.07)	0.97 (0.04)	0.101 (0.04)
	MORE THAN 60		0.32 (0.06)	0.09 NS		
EDUCATION	ELEMENTARY (REFERENCE VAR.)					
	SECUNDARY UNCOMPLETED		-0.42 (0.07)	-0.4 (0.09)	-0.43 (0.09)	-0.43 (0.09)
	PREPARATORY UNCOMPLETED		-0.76 (0.07)	-0.6 (0.1)	-0.64 (0.1)	-0.63 (0.1)
EMPLOYMENT	FORMAL EMPLOYMENT		0.09 (0.03)	0.07 NS		
INCOME	QUINTIL 1 (REFERENCE VAR.)					
	QUINTIL 2		-0.09 (0.04)	-0.15 (0.06)	-0.085 NS	
	QUINTIL 3		-0.07 NS	-0.16 (0.063)	-0.091 NS	
	QUINTIL 4		-0.03 NS	-0.12 NS		
	QUINTIL 5		-0.03 NS	-0.09 NS		
PARTY ID	WITH A PARTY DIFFERENT TO THE I (REFERENCE VAR.)					
	INTENSE WITH THE I			1.95 (0.05)	1.95 (0.05)	1.95 (0.05)
	MEDIUM WITH THE I			4.36 (0.07)	4.36 (0.07)	4.36 (0.07)
	WEAK WITH THE I			5.03 (0.07)	5.03 (0.07)	5.03 (0.07)
	NO ID			5.66 (0.13)	5.67 (0.13)	5.68 (0.13)
INTERCEPT		-0.4 (0.13)	-0.12 NS	-2.04 (0.20)	-2.0 (0.19)	-2.0 (0.19)
CHANGE IN THE PROBABILITY OF CHOOSING THE INCUMBENT BY CHANGING THE EC. PERCEPTION FROM WORST TO BETTER		0,27	0,28	0,11	0,11	0,07

TABLE 3 CONT.

VARIANCE IN THE PARAMETERS OF THE MODEL

INTERCEPT	σ^2_{u1}	0.44 (0.13)	0.43 (0.12)	**0.76** (0.22)	**0.76** (0.22)	**0.76** (0.22)
ECONOMY WORST	σ^2_{u2}	0.30 (0.09)	0.29 (0.09)	0.22 (0.1)	0.22 (0.09)	0.22 (0.09)
ECONOMY BETTER	σ^2_{u3}	0.32 (0.1)	0.32 (0.1)	0.19 (0.07)	0.19 (0.07)	0.19 (0.07)

Several conclusions can be advanced:

a) ERV exists. The probability that an individual will choose the incumbent party if her perception of the economy at the moment of the election compared to what it was 12 months before changes from worse to better is statistically significant and has the expected sign, regardless of where she lives. The contrary reaction is also significant with the expected sign. In the simplest model, this probability is of 0.27. This is an overestimated effect. It includes all those who would vote for the incumbent regardless of their perception of the economic performance of the incumbent, but because they identify with it. In the final model, where only the significant socio-economic variables and Party Id are considered: the probability is of 0.07. This is an underestimated effect, because it includes voters that did react to economic conditions, but also happen to be partisans of the incumbent.

b) Individual socio-demographic characteristics do not explain variation in ERV among countries. If Party Id is not considered, variation in age and somewhat in income seem significant, but this influence does not vary between countries. The country variance does not change with the introduction of these variables.

c) Party Id has the most significant effect on vote choice, but ERV remains significant in its presence. The probability of a voter choosing the incumbent if her perceptions of the economy change from worse to better, "discounting" the effect of her Party Id is of 0.11. As expected, the largest ERV occurs among those who do not identify or have weak identity with the incumbent.

d) The effect of ERV on vote choice varies among countries, and this variance is strongly influenced by differences in the importance of

Party Id among countries. The country variance change from 0.44 to 0.76 once Party Id is introduced.

Does this variance between countries can be explained by context in such a way that the "rationality" assumptions that are behind the entire model of economic retrospective vote hold?

Country specific contextual variance. Economic context

The specific economic situation of the country should be associated with ERV, first of all, because of differences in size. Changes in economic growth, unemployment, inflation and so on, should affect differently voters with an average income above $20,000 US Dollars, than in a country with a *per capita* income bellow $4,000 US Dollars. Furthermore, it is not the same a negative change in GDP growth of one or two points, than a dramatic change of two digits figures, or small inflation or unemployment levels versus hyperinflation and dramatic increases in unemployment.

Several works tend to agree that the general economic conditions that are more often associated with ERV are unemployment, growth and inflation (Lewis-Beck and Paldam, 2000). Royed, Leyden and Borrelli 2000 review the methodology and findings of the seminal work of Powell and Whitten (1993) and suggested that growth should not be used as contextual explanatory variable, since in all the cases analyzed this variable yields no significant effects, as opposed to inflation and unemployment. I tested for GDP *per capita* in 2000 US Dlls, change in GDP, unemployment rate and inflation rate. I tested for last year's changes and incumbent's average.[6]

The group of countries under study is very diverse in its economic characteristics, and in the recent circumstances around their economic performance. Seven countries have an income *per capita* between $652 and $9,608 US Dlls. Seven have a *per capita* income between $12,000 US Dlls, and $16,665, and the remaining eleven, have an income *per capita* between $21,000 and $35,000 US Dlls. The average economic growth during the term of the incumbent varies between -10 and 6.3 per cent in the group of countries, with an average growth of 2.5%. In 16 countries, the average inflation rate during the incumbent's period was bellow 5%, in six of them, the average varies between 11 and 26 per cent, in three it varies between 56 and 73 per cent, and in the remaining three hyperinflations pervaded (134 to 524 per cent). Economic circumstances are also very diverse. A group of consolidated industrial economies can be compared to emerging economies, both in the Eastern European bloc and other areas of market oriented economies. Some of these emerging economies have experienced recent economic successes, and

[6] FMI , Estadísticas Financieras Nacionales, Julio 1999 and IMF. World Economic Outlook, Growth and Institutions. April 2003. (http://www.imf.org/external/pubs/ft/weo/2003/01/index.htm)

others have been stagnant or even have passed through dramatic economic shocks.

In Table 4 the results of nine models are shown. In each model, a specific economic contextual variable is included. In the first column, the simplest model with no contextual variables is shown. In the last, the most robust model with only the significant contextual variables is presented.

Table 4. ERV effect on the vote for the Incumbent in the economic context.

Variables	Mod.1	Mod.2	Mod.3	Mod.4	Mod.5	Mod.6	Mod.7	Mod.8	Mod.9
(Economy same)									
Economy worst	-0.41 (0.19)	-0.42 (0.11)	-0.41 (0.11)	-0.42 (0.11)	-0.42 (0.11)	-0.42 (0.11)	-0.42 (0.11)	-0.42 (0.11)	-0.42 (0.11)
Economy Better	0.45 (0.1)	0.45 (0.10)	0.45 (0.10)	0.45 (0.10)	0.45 (0.10)	0.45 (0.10)	0.45 (0.10)	0.45 (0.10)	0.46 (0.10)
GDP per capita		-0.203 ns							
GDP growth the year before the election			0.2 ns						
Average Growth of GDP				-0.02 ns					
Unemployment the year before the election					0.01 ns				
Average unemployment rate						-0.04 ns			
Inflation the year before the election							0.62 (0.14)		1.51 (0.31)
Inflation rate the year of the election								0.33 (0.16)	-0.92 (0.31)
Same individual sociodemographics [1] (not shown)									
Intercept	-2.0 (0.19)	-2.04 (0.19)	-2.04 (0.19)	-2.05 (0.19)	-2.05 (0.19)	-2.05 (0.19)	-2.04 (0.164)	-2.04 (0.181)	-2.05 (0.15)
Change in the probability of choosing the Incumbent by changing the ec. perception from WORST to BETTER		0,005	0,105	0,106	0,106	0,106	0,103	0,105	0,10

Variance in the parameters of the model

Intercept σ^2_{u1}	0.76 (0.22)	0.73 (0.21)	0.72 (0.21)	0.79 (0.22)	0.80 (0.23)	0.80 (0.23)	0.45 (0.15)	0.65 (0.19)	0.39 (0.12)
Economy WORST σ^2_{u2}	0.22 (0.09)	0.22 (0.09)	0.22 (0.09)	0.22 (0.09)	0.22 (0.086)	0.22 (0.09)	0.23 (0.09)	0.23 (0.09)	0.24 (0.09)
Economy BETTER σ^2_{u3}	0.19 (0.07)	0.19 (0.08)	0.19 (0.07)	0.19 (0.08)	0.18 (0.072)	0.18 (0.07)	0.19 (0.08)	0.19 (0.08)	0.19 (0.08)

[1] Variables of model 5 in Table 3: gender, age, education, Party Id with the Incumbent.

$$\log\left(\frac{\pi_{ij}}{1-\pi_{ij}}\right) = \beta_{1i} + \beta_{2i}(WORST)_{ij} + \beta_{3i}(BETTER)_{ij} + \sum \beta_k(\text{CONTROL})_k + \beta_i Economy_i$$

$$\beta_{1i} = \beta_1 + u_{1i},\ \beta_{2i} = \beta_2 + u_{2i}, \beta_{3i} = \beta_3 + u_{3i}$$

$$u_{1i} \approx N(0,\sigma^2_{u1}),\ u_{2i} \approx N(0,\sigma^2_{u2}),\ u_{2i} \approx N(0,\sigma^2_{u3})$$

The only contextual variables that seem to explain variance in the effects between countries are those related to inflation, but with puzzling results. The inflation rate a year before and the year of the election show positive coefficients: a counterintuitive result, inflation benefits the incumbent. In the final model, where only these variables are included, the inflation rate a year before the election still shows a positive sign, but the inflation in the year of the election has the expected negative sign. Only these variables change the variance in the models among countries, but only in the intercept, not in the coefficients of the economic effects. That is, the slope of the contextual effect of inflation on the relation between economic perceptions and vote choice is similar among countries (see u_2 and u_3), but they start at very different levels (u_1). This observation deserves further consideration, but if we acknowledge that inflation is probably the only economic malaise that is government induced, this result solves most of the discussion about attribution of responsibility.

In sum, once we control for individual level characteristics, with the exception of this not so clear effect of inflation, neither economic conditions the year before the election, nor average economic conditions during the government of the incumbent explain variation in ERV effects among countries.

Discussion

ERV exists but, if Party Id is considered, it seems that it has a negligible effect on vote choice for the incumbent. It appears that ERV seems to be independent of economic context, because differences in the extension of Party Id at the individual level explain much of the variation among countries.

A most relevant question to answer is if the negligible size of the ERV and its instability is factual or methodological? That is, if these findings are the result of faulty measurement or badly specified models.

Measurement errors. All surveys document variation in economic perceptions among respondents. Individual perceptions of the economy represent variation in survey responses regarding perceptions of a constant that might affect in different ways similar individuals, or socioeconomic strata. When these variations correlate with respondent's reported vote choice, it is very likely that vote preferences would influence economic perceptions. If response variation is random error in the independent variable, the imputed economic effect is actually underestimated since it includes individuals with bad economic personal situation underreported by incumbent's partisans. If response variation is induced by partisan choice -the intended dependent variable- the imputed economic effect is biased upward, many partisans of the incumbent party negatively affected by economic policies who nonetheless vote for it. (Erikson 2004, 10-11). Erikson

concludes that "…the evidence suggest that apart from this endogenously induced partisan bias, almost all of the cross-sectional variation in survey evaluation of the economy is random noise rather than actual beliefs about economic conditions" (Erikson 2004, 1). If this is true, mean values of the economic perceptions must be independent of any significant Nation-level economic variable. They are not. The correlations between the mean value of the economic perceptions and real economic variables show a consistent and expected pattern. Good economic conditions are associated with larger portions of the population having positive economic perceptions and vice versa. But in any case, as Kramer (1983) suggested, aggregate mean values of individual evaluations reflect the economic signals that predict the aggregate vote. His study is based on four American elections, where Party Id is almost constant. Party Id varies considerably between countries. In some places almost 80% of voters have Party Id in some degree, and in others no more than 10% does. Given thiese considerations, is it sustainable that survey evaluation of the economy is random noise rather than actual beliefs about economic conditions? I think no, albeit all the endogenous relations described, economic evaluations have some variance independent of partisanship. So, the problems of specification are more related to model specification, than to variable definitions.

Are the models properly specified? Not necessarily, first, it is necessary to include more country-elections in the study. Even though the multilevel models take full advantage of the vast number of individual data to adjust the models to analyze the second level, in the end, they depend on aggregate measures, such as correlation matrices. The number of cases is very much in the lower level of the acceptable limit for random models.

Secondly, it seems wise to go back to the complete model pictured by Fiorina. That is a model with interaction of measures of certainty, attitudes towards risk, attribution of responsibility of the situation of the country, and of the benefit attributed to the government's performance. A first exploration of this strategy follows.

Information and uncertainty

All the models tested so far, do not consider those factors that ponder the relationship between economic perceptions and vote choice, basically the attribution of responsibility for the economic change, and the certainty the individual has over her economic perceptions and the likely performance of the participant parties in the election. The individual level model is:

Vote = r_{p-1} s_{p-1}[Perception of the Economic Situation]

Where

r = Attribution of responsibility. Political efficacy.

s = Certainty Information. Political information.

Logistic regressions were adjusted for every population (*k*) to estimate the interactive effects of the individual political efficacy as a proxy of the individual's attribution of responsibility and the level of political information of the individual as a proxy of her certainty about her knowledge of the economic situation and the performance of the competing parties.

Political efficacy was estimated with the typical questions and it did not produce any significant coefficients, a result that deserves special consideration.[7]

The political information index did produce significant coefficients but with no consistent pattern.

The model is:

$$\log\left(\frac{P_k(Incumbent)}{1-P_k(Incumbent)}\right) = \alpha_k + \beta_{1k}(PII_k)*(\text{Ec. Ev}_k) + \beta_{2k}(\text{P Id}_k).$$

Where:

PII is the Political Information Index, estimated with the answer of the respondent to three political information items (low information: one correct answer, high information: two or three correct answers).

[7] Some people say that members of [Congress/Parliament] know what ordinary people think. Others say that members of [Congress/Parliament] don't know much about what ordinary people think. Using the scale on this card, (where ONE means that the members of [Congress/Parliament] know what ordinary people think, and FIVE means that the members of [Congress/Parliament] don't know much about what ordinary people think), where would you place yourself? Some people say it makes a difference who is in power. Others say that it doesn't make a difference who is in power. Using the scale on this card, (where ONE means that it makes a difference who is in power and FIVE means that it doesn't make a difference who is in power), where would you place yourself? Some people say that no matter who people vote for, it won't make any difference to what happens. Others say that who people vote for can make a difference to what happens. Using the scale on this card, (where ONE means that voting won't make a difference to what happens and FIVE means that voting can make a difference), where would you place yourself?

Ec is the evaluation of the economic situation that results from the perception of the state of the economy in the country compared to the last twelve months.

P Id: Identification with the incumbent party.

The discount factors seem to play a role in the relation between economy and vote choice. All the coefficients estimated were larger than in the models without them. Interactions are very difficult to interpret in any OLS model, even more in a logistic model. To test the consistency of these results I run the model for each PII level separately. The effect of the interaction of PII and economic evaluations on choosing the incumbent did not show any consistent pattern. Variance in the effect of the ERV is similar in all levels of political information. I think that this results from the different ways the Index is estimated in each country-election study. With more country-elections these models will be tested again, but after some standardization is done, because the questions used in Module 1 to estimate the Political Information Index are very different among country studies.

Finally, are the definitions used the best suited to explore the contextual effects?

The economic variables can hardly be improved. If something, a general Index of Leading Economic Indicators might be a better measure of general economic conditions (See Rogers 1994, Wlezien and Erikson 1996 and 2004). The problem is that it is not easy to construct such an indicator for all the countries in the study. Finally, it would be necessary to explore Party Id and economic context. What is behind the variation in Party Id among countries? Are party loyalties associated with institutional context? Is there a way to disentangle the effects of economic context and individual economic well-being from P Id?

Annex 1. Weights

The CSES data base includes three weights, sampling (ωs), demographic and political.

Weighting within the country:

Estimate the individual composite weight

$\omega_{ij} = \omega s * \omega d * \omega p$.

Estimate the country weight

$$\omega_{country} = \left(\frac{\omega_{ij}}{\sum_{i=1}^{n_j} \omega_{ij}} \right) n_j$$

Each individual represents its size within the country

Weighting the entire data base. Each individual in the "world" weights proportional to its size.

$$\omega_{Total} = \left(\frac{\omega_{ij}}{\sum_{i=1}^{n_j} \omega_{ij}} \right) \left(\frac{N_j}{\sum_{i=1}^{m} N_j} \right) \sum_{i=1}^{j} n_j$$

Where:

N_j : Size of the *jth* country.

n_j : Sample size of the *jth* country.

m : number of countries.

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