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## Assessing the magnitude of the economic vote over time and across nations<sup>☆</sup>

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### Abstract

By analyzing a wealth of survey data (163 national surveys) from 19 countries over two decades and by applying a methodology designed to make this evidence comparable, we offer for the first time a comprehensive map of the extent of economic voting across countries, over time, and for different parties. All told, we estimate voter preference functions for over 900 political parties. In this essay we analyze these data with the goal of establishing the extent to which there in fact is an economic vote in developed democracies. We find that the economic vote varies significantly across national contexts and over time. We also establish that the economy is a significant determinant of vote choice. We situate the median impact of economic evaluations on the vote probabilities of incumbent PM parties at approximately 5%. © 2005 Elsevier Ltd. All rights reserved.

*Keywords:* Economic vote; Cross-national; Context; Multi-level; Vote; Retrospective; Survey analysis; Methodology

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## 1. Introduction

It is virtually a universal belief among politicians, political commentators, and even voters that elections are referenda on the economy. And while there are inevitably exceptions to the rule (some point to the 2004 US Presidential election), ultimately, in “normal” elections when political campaigns take place as they should, the economy is thought to be determinate. Popular beliefs, of course, are not social science laws and exceptions to economic determinism are easy to find, even if they are often explained away as idiosyncratic. What then is the real evidence for the universality of economic voting? Some academics studying economic voting around the world mirror this common belief. For example, Helmut Norpoth (1996) goes so far as to suggest that, “there are signs that the inclination to vote that way is hard-wired into the brains of citizens in democracies.” Many others, however, are more cautious. Lewis-Beck (1988) finds evidence for economic voting but emphasizes its variability as much as its constancy. In the United States, empirical findings have generally confirmed the economy influences expressions of political support, but the nature of that influence has been the source of almost constant debate. In other countries, disagreement about the nature and strength of the economy–support relationship is even more pronounced. Some scholars have had trouble finding any empirical relationship between the economy and political support, but even among those who do identify some kind of relationship contradictory evidence about the *nature* of the relationship persists. The initial comparative studies of economic voting (that is those that used the same measures and comparable data across several countries) have done little to clarify this situation.

The simple fact is that we do not know how universal economic voting really is. We find it in some elections but not in others and we do not know why. Neither the accumulation of survey analyses of individual elections nor studies of aggregate electoral results from many elections have improved the situation. In the former cases, different survey analyses are seldom adequately comparable; while in the latter case the pooling of aggregate data from many different elections into a single statistical analysis assumes a level of consistent economic voting across elections that is, of course, the very thing of which we are unsure. By utilizing a wealth of survey data (163 national surveys) from 19 countries over two decades and by applying a methodology designed to make this evidence comparable, we offer for the first time a comprehensive map of the extent of economic voting across countries, over time, and for different parties. All told, we estimate voter preference functions for over 900 political parties. In this essay we analyze these data with the goal of establishing the extent to which there in fact is an economic vote in developed democracies.

## 2. Research design and data

### 2.1. *The theoretical concept of economic voting*

Economic voting is an individual level phenomenon that is reflected in the relationship between a person’s perception of the economy and the probability with

which she votes for each of the available parties or candidates in an election.<sup>1</sup> This differs from the way the term is used in common parlance and in much of the academic literature. Specifically, most people only use the term “economic voting” to refer to the relationship between economic perceptions and the probability of voting for *incumbents*. Our usage, however, is more general because it refers to the impact of economic perceptions on the individual’s chances of voting for any party. Specifically, we assume that voters have some probability of voting for each party in an election (where these probabilities are non-negative and sum to one). Thus, this theoretical vector of vote probabilities provides a complete characterization of the individual’s voting behavior. Similarly, change in this vector (which must by definition sum to zero) that is caused by a change in economic perceptions provides a complete description of the individual’s economic voting. As a theoretical concept, then, economic voting *is* this vector of changes in vote probabilities. If the vector of changes is zero for every party, the individual is not an economic voter. If the elements of the vector are large for one voter compared to another then we can think of economic voting as being stronger for the first person than for the second.

Clearly, our definition of economic subsumes the common usage since the incumbent(s) will normally be among the parties in an election. However, this generalization comes at the cost of complicating the concept. Specifically, in our conception of economic voting there are two quite different dimensions to the economic vote: a size component (when perceptions change, how much does the distribution of vote probabilities change overall?) and a distributional component (when perceptions change, which parties—or coalitions of parties—win and lose?). A convenient way to think about the size component of the economic vote is to define an additional theoretical quantity that we will call the “volatility of the economic vote”. This theoretical quantity is calculated from the economic vote (i.e., the vector of changes in vote probabilities due to changing economic perceptions) by summing the absolute value of these changes for each party and dividing this number by 2.<sup>2</sup> For example, if, for a given voter, the absolute value of the change in vote probabilities for three parties in an election are 0.05, 0.03, and 0.02. The sum of these is 0.10 and so volatility is just this sum divided by 2, or 0.05. Intuitively, this is just the total amount of vote probability that has “changed parties” due to a change in the voter’s economic perceptions. This volatility measure is a particularly effective strategy for characterizing overall trends in the magnitude of economic voting or describing cross-national differences in the size of the economic vote.

A wide range of theories relating to the economic vote concerns a subset of the elements making up this vector of changes in vote probabilities. There are, for example, hypotheses that specifically concern the change (resulting from a shift in economic perceptions) in the vote probabilities for the Prime Ministers (PM) Party. In

<sup>1</sup> Sometimes voters vote over parties and sometimes candidates. To avoid cumbersome language, however, we will generically refer to voting over parties and leave it to the reader to substitute candidates where appropriate.

<sup>2</sup> This is the standard measure of vote volatility used in the literature (e.g., Bartolini and Mair, 1990). If  $\Delta v_i$  is the change in vote for party  $i$ , then total volatility is just  $(\sum_i |\Delta v_i|)/2$ .

this case the appropriate measure would be the single vote change probability in the vector associated with the incumbent PM Party. But one could also imagine hypotheses that concern different combinations of the change in vote probabilities making up this vector. For example, one might want to test whether the economic vote for PM parties is different than the economic vote for coalition parties holding the portfolio responsible for macro-economic policy initiatives (typically the Finance Minister). Similarly, it might be of interest to explore empirically whether the economic vote for opposition parties who are “serious” contenders for the governing coalition behave differently than the economic vote for opposition parties with little chance of entering the government. These examples of empirical hypotheses would lead researchers to focus on a particular subset of the change in vote probabilities making up our vector. This is what we call the distributional dimension of the economic vote and the measure is particularly appropriate for addressing theoretical questions that concern some subset of the parties competing to enter a governing coalition. In this essay we will be dealing exclusively with a distributional dimension of economic voting; specifically, the change in the vote probabilities for the PM party.

Before turning from definitions of theoretical quantities to how we might measure these quantities, a final definitional issue should be addressed. It concerns our focus on individual vote choice as the basis of our definition. As we have already emphasized, economic voting is an individual level phenomenon. It is only when individuals condition their votes on their evaluations of the economy, that economic voting can occur. However, we will ultimately not be interested in explaining differences in economic voting among individual voters. Rather, we will focus on a typical economic effect averaged over all of the individuals in each population we study and try to explain variation in economic voting among these populations. This has implications for the terms we use and the inferences we make. First, if we focus on the economic vote (which by our definition is a vector of vote changes for each party, where these changes sum to zero) of each voter in each sample then the average of the changes in vote probabilities for these sampled voters can be equated to changes in the expected vote shares of parties. Thus, instead of referring to economic voting as “changes in the vote probabilities of an individual voter that are the result of changing economic perceptions”, we will often drop references to the individual and instead discuss economic voting as an aggregate phenomena, i.e., the change in the vector of expected party vote shares due to changes in economic perceptions.

## 2.2. *Measuring economic voting*

The information that we will use to produce measures of economic voting (the change in vote probabilities due to changing perceptions) and of the volatility of the economic vote comes from surveys of 163 different national populations in 19 western democracies from 1980 to 2001.<sup>3</sup> Our principal concern is to build measures

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<sup>3</sup> Each survey randomly samples the national population of adults at the time of the survey. In some cases the sample had to be weighted to account for non-random over-sampling of some groups in the population.

of economic voting in each population that are comparable across the different populations. More concretely, we will consider our measures comparable if the variation in the measures across different populations reflects real differences in economic voting in these populations rather than simply differences in our measurement techniques.

This measurement task is complicated because the theoretical quantity we want to measure (the economic vote) is a *causal effect* (i.e., it is the impact of one variable on another) and so cannot be observed directly. Instead, the effect must be estimated from the data on the two variables that make up the relationship (vote choice and economic perceptions). Fortunately, each of our surveys is based on a large sample from the relevant population, so we can use statistical models to produce the necessary estimates (as well as measures of our uncertainty about them). Of course, there are many different statistical models that one could use. For example, a particularly simple method would be to estimate economic voting in each population from the bivariate correlations between economic perceptions and vote choice in the corresponding survey. By comparing these correlations across populations one could build a map of the strength of economic voting across countries and over time. Indeed, this method has long been used to study other questions in comparative political behavior (e.g., class voting; Evans, 1999; Franklin et al., 1992). Correlation analysis, however, is not the best way to estimate causal effects, since it does not account for the influence of other variables that can confound the relationship and bias the estimates.

More generally, in choosing an estimation method we should strive to produce estimates of economic voting that reflect its true value in the population. In statistical terms, we seek to produce *consistent* estimates of the economic vote in each population.<sup>4</sup> In the statistical models that we will be using to produce our estimates, consistency is only achieved when one specifies the components of the statistical model correctly (i.e., they match the true process that generated the data). This means including the correct explanatory variables in the statistical model, choosing a probability distribution that correctly characterizes the random components of the process that generated the dependent variable (i.e., an individual vote choice), and specifying the functional relationship between the explanatory variables and the dependent variable correctly.<sup>5</sup>

Clearly, consistent estimation is an ideal and is never achieved in practice. Indeed, since we never know the true process that generated the data, we can never know for sure if we have a correctly specified statistical model. Still, we do not come to the process of model building unarmed. We can use logical constraints to rule out many possible specifications (e.g., a variable that can only have positive values cannot be

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<sup>4</sup> An estimator is consistent if it converges to the true value of the quantity being estimated as the amount of data used to produce the estimate increases infinitely.

<sup>5</sup> See Achen (1986) for an excellent review of specification issues in quasi-experimental statistical models.

generated by a random process that sometimes results in negative values). We can use our knowledge of the substantive problem (e.g., which explanatory variables are likely to be important?); and we can ask if the model produces estimates that conform to what we are sure is true of the real political world (e.g., we would question the specification of a vote model that suggested that holding more leftist political orientations increased the chances of voting for conservative parties).

In this article we produce our estimates of the strength of economic voting in each of the 163 sampled populations from carefully specified statistical models of individual voting behavior. In specifying the components of these models, we have been guided by the vast literature on voting behavior in general, the country-specific literature on voting, and a growing body of work concerned with the particular statistical problems associated with estimating vote choice models.<sup>6</sup> The 678 estimates obtained from these models (one for each party in the 163 populations) are the numbers that we use to characterize the strength of economic voting in each population.

Throughout the process of producing these estimates, our most important concern has been that the estimates themselves be comparable across populations. This required first and foremost that we attempt to estimate the same theoretical quantity in each population. After all, even very good estimates of different quantities would do us little good comparatively.<sup>7</sup>

### 3. Estimating the same theoretical quantity across different populations

#### 3.1. *Obtaining comparable vote choice and economic perceptions questions*

The first step in obtaining comparable estimates from different surveys is to identify studies that ask respondents about their vote choice and their perceptions of the economy. Ideally, these questions would be asked in exactly the same way in each survey, but unfortunately this is rarely the case. Thus we will need to make judgments about the degree of difference in question wording that is tolerable between surveys. Too high a tolerance will hurt the comparability of the resulting estimates, but too low a tolerance will unduly limit the number of surveys from which we can glean evidence. Fortunately, however, there is a remarkable degree of consistency in the question wording for vote choice and economic perception questions across surveys and where differences do exist, they are seldom

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<sup>6</sup> For an excellent overview of the comparative economic-voting literature, see Lewis-Beck and Stegmaier (2000). A number of nice treatments of the measurement and estimation issues can be found in Alvarez et al. (2000) and Alvarez and Nagler (2000).

<sup>7</sup> Obviously we could not present the results of each estimation in this essay—in fact they would be too voluminous even for a book manuscript (Duch and Stevenson, 2005). Details on the national election studies employed here and the models estimated for each country can be found at <http://www.raymond-duch.com/economicvoting>.

idiosyncratic. Rather, there are usually only two or three ways a given question is asked and so there are almost always a group of surveys that ask questions in the same way. The great benefit of this happy circumstance is that with enough cases of each type of question wording we can do secondary analysis to look for any systematic impact that the differences have on our estimates. For example, if there are two ways in which the vote choice question is asked and this difference matters for our analysis, then we should see some systematic difference in our estimates of economic voting for surveys in which the different questions were used. Below, we review the questions that were used for vote choice and then turn to economic perceptions. We reviewed over 300 candidate surveys for inclusion in this study and 163 were judged to have sufficiently comparable questions on vote choice and economic perceptions (the studies and study years are listed in [Appendix A](#)).

### *3.1.1. Vote choice questions*

Three types of vote choice question were used in the surveys that we allowed. In each, the question asks the voter about a vote in a single election. We did not for example use surveys that only asked respondents to which party they felt closest (e.g., the early Italian Eurobarometers) or that asked respondents if they would ever vote for a certain party (for example, the work of [Kroh and van der Eijk, 2003](#)). The three kinds of questions we did use differed in two ways: (1) in their relationship to the election for which the vote applied and (2) in their treatment of non-voting. With respect to the first issue, surveys conducted directly after elections simply ask respondents to report their vote choice in the preceding election. In contrast, those surveys that were conducted just before an election ask respondents whom they intend to vote for in the upcoming election. Finally, surveys that were not proximate to an election (e.g., many of the EuroBarometer surveys) ask the voter about a hypothetical election: “If there were a general election tomorrow which party would you support?” There is a large literature on the strengths and weaknesses of these different kinds of questions in measuring vote choice; however, the key question for our analysis is whether these differences introduce systematic biases into our estimates of the strength of economic voting that will make them less comparable.

The second difference in the vote choice variable concerns the treatment of non-voting. All the surveys we used allow the voter to express whether they did not vote or do not intend to vote. Further, most allow the voter to indicate if she cast (or intends to cast) a blank ballot. Where these studies differ is in how they determine whether the respondent does not intend to vote. In many surveys the option of non-voting is simply included along with the other parties in the vote choice question. In others, however, a two-question format is used in which the respondent is first asked whether she voted (or intends to vote) and only then for whom she voted (or intended to vote). While this is a readily apparent difference in the way the vote choice question is asked in different surveys, it is unlikely to be consequential in our analysis, since (for other reasons) we decided to ignore non-voters in our analysis

(although regarding non-voters, see [Tillman, 2004](#)). The important point is that in all our studies voters were allowed some way to express that they either did not vote or did not intend to vote.

### 3.1.2. *Economic perceptions*

Each of the 163 surveys used in the analyses in this essay asks respondents a question of the following general form:

Looking back over the last year, would you say that the economic situation in [name of country] has gotten much better, somewhat better, stayed the same, somewhat worse, or much worse.

The key elements of this question are that it is retrospective; it refers to the national economy; and it is about change in the economy rather than the absolute level of the economy (i.e., the economy is good or strong). For a survey to be included in our study, we required that it include an economic perception question with these three characteristics. However, other less fundamental deviations, like whether the retrospective evaluation was over a year or two years and the number of response categories were tolerated. We do not expect these deviations to be consequential but, as with the vote choice question, we can investigate this expectation empirically.

Practical constraints dictate the adoption of the retrospective version of national economic evaluations because this question by far outweighs prospective evaluations in the elections surveys conducted over the past 30 years. This, of course, is not by chance but rather reflects the theoretical importance of the retrospective model of the voter's economic reasoning beginning with [Key's \(1966\) \*The Responsible Electorate\*](#), the micro-level findings in the US of [Fiorina \(1978, 1981\)](#); [Kinder and Kiewiet \(1979, 1981\)](#), and more recent theoretical advances such as those of [Rogoff and Sibert \(1988\)](#); [Rogoff \(1990\)](#) and [Alesina and Rosenthal \(1995\)](#) that demonstrate that retrospective evaluations are consistent with optimizing behavior when the electorate has incomplete information about the competency of politicians. Moreover recent evidence that the economic voter in fact forms prospective expectations of economic performance in evaluating incumbents emphasizes that these prospective evaluations are dependent, although not exclusively, upon retrospective assessment of economic conditions ([MacKuen et al., 1992](#); [Erikson et al., 2000](#); [Duch and Stevenson, 2004](#)). Since the purpose of this article is not to determine the relative importance that voters accord retrospective versus prospective assessment in evaluating the macro-economy, we focus exclusively on retrospective national evaluations. And while we do not go so far as to accept [Downs' \(1957\)](#) suggestion that the two evaluations are identical, we believe that prospective assessments incorporate considerable retrospective information. Hence calibrating the magnitude of the economic vote based on retrospective assessments is parsimonious (in the sense that it captures a key information input into prospective evaluations), is consistent with the dominant theoretical work in the field, and meets our practical data constraints.



### 3.2. *Identifying control variables*

As mentioned in the introduction to this section, a goal of the estimation for each survey is to produce consistent estimates of the impact of economic perceptions on vote choice. To achieve consistency, however, we cannot simply include economic perceptions and the vote in the statistical model, but must include other variables that impact the vote choice. Only if we have accounted for all the important influences on the vote will we be confident that our estimates reflect the true relationship between economic perceptions and vote choice in the population to which the relevant survey applies. With this in mind, we build our statistical models for each survey by including variables that are known to be important in voting in the particular country and time. We identify those variables from the literature on comparative voting behavior and on the country specific literature on voting in each country. In theory, this strategy might lead to very different model specification in different countries, but in practice this is not the case. First, there is a great deal of agreement across countries about the basic factors that drive vote choice. This means that the literature in the different countries usually points to the same kinds of variables as important determinants of the vote. Second, since the scholars who have written the voting literature in each country are usually the same people who design the surveys, measures of these basic factors are usually included in election studies.

What are these factors? In general, three theoretical traditions provide the foundations for most empirical models of voting (Alt and Chrystal, 1983; Franklin et al., 1992; Dalton, 1988). First, the sociological tradition identifies class, urban/rural residence, religion, region, language, and race as potentially important predictors of vote choice. These variables capture the voter's position within the cleavage structure of society so that in countries with different cleavages structures, different subsets of these variables will be important. The emergence of new cleavages such as post-materialism, environmentalism and life-style concerns (Dalton, 1988; Duch and Strom, 2004) also would be included here. Of course, the country specific literature always makes it clear what these cleavages are. And since most voting preference studies include the full range of the widely accepted cleavage variables, our specification of this theoretical component of the vote model is extremely robust.

Second, the influence of the Michigan school points to the importance of the direction and strength of partisanship as explanations for vote choice. However, the distinctiveness of partisanship and vote choice has been challenged in many countries and in some literature (e.g., in Britain, Canada) there is a lively debate about the role of partisanship in voting (Clarke et al., 2000, for example). Because of this lack of consensus (even among scholars working in one country) we examined the impact of partisanship on our models quite carefully and have produced extensive secondary analysis to ensure that our estimated variation in economic voting across countries does not hinge on this decision (Duch and Stevenson, 2005).

Third, expected utility theorists argue that the voters make choices based on the policy implications of electoral outcomes. This tradition emphasizes the importance

to the vote decision of the spatial distance between voters' issue preferences and those of contending parties and coalitions. In most national contexts much of the electoral competition is captured by the left-right scale (Huber and Gabel, 2000) and as one might expect this scale is implemented in most vote preference studies. Accordingly this measure is included in virtually all of our individual-level models. But in many political contexts electoral competition has a multidimensional character and hence one must measure the positions of voters and parties on different policy dimensions (Laver and Budge, 1992). Our strategy has been to include issue policy dimensions—in addition to the right-left dimension—in those contexts in which scholars have identified their importance and when the appropriate measures were available in the national voter preference surveys.

It is important to understand that nothing requires that the “control variables” included in the specification of the individual vote models be measured in exactly the same way from study to study or even that the same concepts be controlled for. If a concept is important to voting in a given election, it needs to be measured in some way and included in the empirical model so that inferences about the impact of economic perceptions are not distorted. If, however, it is not important to voting at that time and place, then it can be safely excluded even if it is included in the models for many other surveys. The consequent difference in specification across the different surveys does not impact the comparability of the estimates for the economic perceptions variable in the differently specified voting models.

Thus, our strategy in specifying the individual-level models for each country has been first and foremost to adopt specifications for the control variables that are consistent with those adopted by scholars specializing in electoral behavior of the country in question. In cases where there are controversies regarding the appropriate control variables to include in a voter preference equation, we have explored the implications of the alternative specifications for our estimates of the economic vote magnitudes. So, for example, we assess the impact on our estimate of economic vote magnitudes of including and excluding party identification variables in the vote equation for those national contexts where this is controversial. We believe this is an appropriately conservative strategy for ensuring that our estimates of the magnitude of economic voting are comparable across national contexts and over time.

#### **4. Estimation of the model parameters**

Once we have decided on the variables to be included in the model for each individual survey, we estimate a multinomial logistic model (MNL) of vote choice. The model allows one to estimate the probability that the voter chooses each of the parties and to see how this distribution of probabilities changes when perceptions of the economy change. These models have the advantage over the logistic models that are usually estimated in the literature on economic voting in that they do not force us to artificially treat multiparty elections as a contest between incumbents and

opposition parties. Indeed, these models do not require that we even define incumbency previous to the estimation.

Of course, there are disadvantages as well. One important disadvantage of the model is that it produces a large number of parameter estimates—(the number of party choices–1)×(number of independent variables). So, for example, a five party model with nine independent variables and a constant would produce 40 coefficients.

An alternative to the MNL model is to estimate a set of simple logistic regressions, one for each party in the election, in which the vote choice for each party is recorded as either being for a party or against it. These estimates will not obey the constraints that estimated probabilities and effects sum to one and zero, respectively, and actually require one to estimate a larger number of coefficients than the MNL, i.e., for nine independent variables and five parties one would estimate 50 coefficients. Still, for purposes of comparison with the MNL estimates we have estimated these models and have found no significant differences in the general pattern of results which is consistent with Alvarez and Nagler (1998).

## 5. Generation of substantive effects

Once we have obtained estimates of the coefficients of the vote models, the job of obtaining the impact of economic perceptions on the vote is only half completed. The coefficients from non-linear models like the multinomial logit are not sufficient to determine the substantive impact of the variables, so we must instead calculate this impact for some meaningful change in the variable of interest (for a discussion see Greene, 1999). Because the models are non-linear, the size of the impact of each variable is dependent on the value of the other variables. Consequently, the usual procedure is to vary the variable of interest (in our case economic perceptions) while holding the other variables constant at some value (say their mean values). However, this procedure has the drawback that the mean values of the control variables may not be representative of the sample as a whole and in any interesting population one is likely to have a variety of “representative individuals”.

To accurately assess the results thus requires considerable care in examining the effects of interest while holding the control variables at various alternative values. Such care, however, quickly increases the number of results one must examine (and possibly report) and so is often not practical. An alternative, and the one adopted here, is to calculate the impact of a given change in the variable of interest for each observation in the sample. If one has 1000 respondents and 10 independent variables (other than the variable of interest), then one holds these 10 variables constant at the values they take on for the first individual in the sample and simulates the predicted effect and the appropriate standard errors. This is then repeated for the next individual, and so on for all 1000 respondents.<sup>8</sup> In this case the simulated effect is

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<sup>8</sup> The predicted values and standard errors for each observation were simulated using the Clarify package in STATA version 8.0.

based on moving the respondent's actual evaluation of the national economy one unit in the negative direction. Once this has been done, one can simply average across the sample to get the average size of the effect *given the sample*. This procedure has the advantage that one can present a single summary of the substantive effects (which is even more important when one needs to present the effect from 163 surveys each with multiple parties). More importantly, the effect is a much better representation of the population than choosing the average individual, as is often done.<sup>9</sup>

We repeat the above procedures for each study in the analysis and so obtain from each study an estimate of how the predicted vote probabilities for each party would change if each person in the sample were to become more pessimistic about the previous economy.

## 6. Summary of the method

1. Choose surveys with comparable questions on vote choice and retrospective national economic perceptions. Code economic perceptions so that it has three categories: better, stayed the same, and worse.
2. Add control variables drawn from the voting literature.
3. Estimate the parameters of the model using multinomial logit.
4. Set the values of the control variables equal to the observed values for the first observation in the sample.
5. Simulate the difference, for this case, in the predicted probabilities of voting for each party when economic perceptions are made one unit worse than the respondent's current evaluation.
6. Repeat steps 4 and 5 for each case in the sample.
7. Average the simulated difference and simulated standard errors over the sample. The result is the average impact on the probability of voting for each party of making retrospective national economic perceptions one unit worse, given the sample (i.e., the distribution of values for the control variables in the sample).

## 7. Results

To the extent that economic voting exists, we should expect the simulated impact of worsening perceptions of the economy to significantly affect public support for political parties. If public support for parties is relatively unaffected by economic fluctuations then we would expect fairly small effects over this large sample of

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<sup>9</sup> For example, the selection of an "average" individual is the strategy that Lewis-Beck (1988) uses for estimating the impact of economic evaluations for his sample of five countries. Our strategy typically results in a more conservative estimate of the impact of economic evaluations because a large number of respondents are at the extremes of the probability distribution (very strong partisans, for example) and hence will not be moved much by a change in economic evaluations.

national election studies. Fig. 1 presents a plot of all PM party economic vote estimates including their confidence intervals of two standard deviations. The point estimates range from about  $-18\%$  to  $+4\%$ . Almost 90% of the point estimates are negative providing pretty definitive evidence that voters tend to punish incumbent parties when the economy is doing poorly. The median economic vote effect for this sample of 163 voter preference studies is  $-4.4$ . This suggests that in a typical election the incumbent PM party can expect a 4.4% vote loss if overall economic evaluations decline one unit on a standard three-unit economic assessment scale.

The standard deviations we have placed on the economic vote point estimates enable us to assess whether the typical economic vote effect is statistically significant. Note that although a number of the confidence intervals in Fig. 1 include zero the overall density of the combined confidence intervals is below the zero line. Any single economic voting study would have a reasonably good chance of producing a point estimate that could not be distinguished statistically from zero. So, for example, in assessments of economic voting based on a single or small number of surveys (such as Lewis-Beck's (1988) classic five nation study) one might expect conventional *t*-tests to suggest statistical insignificance. But the total sample of 163 PM party economic votes tells a different story. Assuming that the confidence intervals are symmetric and normally distributed, we can add up the individual densities. It turns out that 70% of the summed densities fall below zero. This suggests that the magnitude of the economic vote when assessed over a large number of studies is clearly statistically significant. Hence the evidence from this combined sample of voting studies indicates that we can be quite confident in concluding that there is an economic vote and that its median value is about 4.4%. This result also suggests

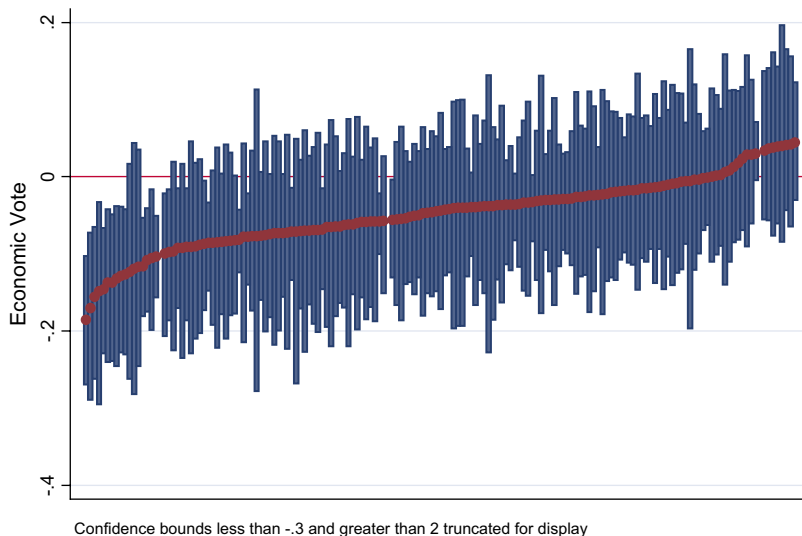


Fig. 1. Confidence bands for economic vote, PM parties.

caution in relying on a single—or even a small number—of voting studies in drawing conclusions regarding the magnitude of the economic voting because there is a good chance of generating point estimates that are not statistically significant but this does not suggest—and is clearly at odds with—the general proposition that the economic evaluations have a statistically significant effect on vote preferences.

These results leave little doubt that voters' perceptions of economic performance shape the support for political parties across a broad range of developed democracies. We now explore whether the oft-noted temporal and spatial variation in the level of economic voting finds support in our data.

### 7.1. Cross-national variation

Our assessments of the magnitude of the economic vote were based on what we called the distributional dimension of economic voting; we focused on changes in the vote probabilities for the Prime Minister party (i.e., a single entry in the vector of changes in vote probabilities). We now move to assessing whether these PM party economic vote magnitudes vary significantly across national contexts.

The magnitude of the PM Party economic vote does vary dramatically cross-nationally. Fig. 2 provides a box-plot of each country's electoral volatility due to economic voting. The median country in the sample is Portugal with a PM Party economic vote score of just under  $-5\%$  (again suggesting that a unit deterioration in economic evaluations would reduce the incumbent PM party's vote share by  $5\%$ ). For the most part these results comport well with the more limited cross-national findings from previous work. The fact that Britain ranks as having the second

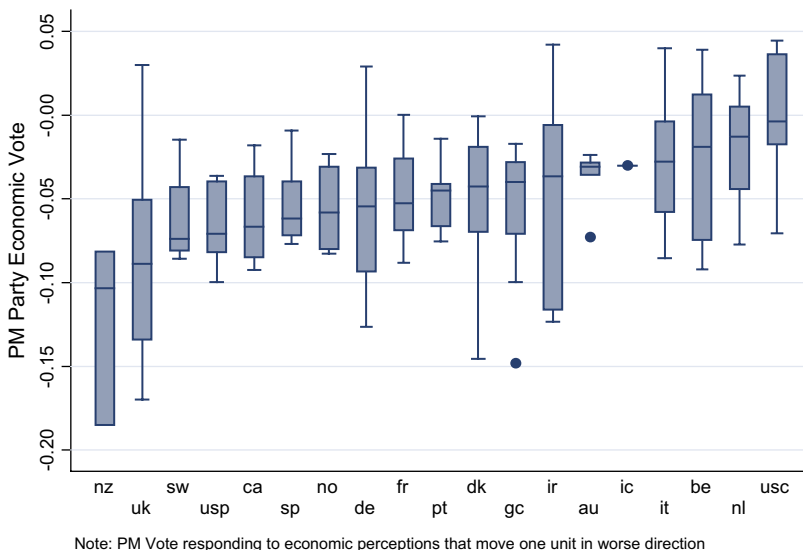


Fig. 2. PM party economic vote by country.

highest level of vote volatility associated with the economic vote is consistent with other findings. Anderson (1995) finds that Britain unambiguously has a high level of economic voting. Britain also ranks as having the highest level of economic voting in Lewis-Beck's five-country study (Lewis-Beck, 1988, p. 86). Moreover the rank ordering of Lewis-Beck's five countries (Britain, Spain, Germany, France, and Italy) in terms of the magnitude of economic voting is precisely the rank ordering of the countries in our sample. In addition the US results line up exactly as the literature predicts. Much of the economic voting literature is based on US data and it suggests a strong economic vote in the US (Kiewiet, 1983; Erikson et al., 2002). And consistent with this expectation, our results indicate that US Presidential elections (usp) rank as having the fourth highest level of economic voting out of our 19 countries. In addition, the US congressional results (usc) are also in keeping with much of the literature that points to a weak economic vote in US congressional elections (Alesina and Rosenthal, 1995; Keech, 1995).

### 7.2. Over-time variation

If the size of the economic vote were strictly a function of institutional context—clarity of responsibility, for example—then we would not expect much dynamic variation in our measure of the volatility of the economic vote. Yet the literature does argue for dynamic variation in levels of economic voting—typically, trends and period effects. What are these trends? On the one hand some argue that the rising role of government in the economy has *raised* the voter's sensitivity to economic performance (Anderson, 1995, p. 35) while others have argued that global economic convergence should *reduce* levels of economic voting (Alvarez et al., 2000; Alesina et al., 1999). Anderson's (1995) results suggest that there might be an asymmetric period effect whereby economic voting is moderated during particularly good economic times (in his case pre-1973) and exaggerated during difficult times (again in his case the post-oil crisis). Suffice to say, dynamic variation in levels of economic voting represents an established part of the comparative economic voting literature. The box-plots in Fig. 2 suggest that there is variation across the time period within any particular country. The range of economic voting magnitude scores for Ireland, for example, is from –12 through to 5%. Fig. 3 presents box-plots for the economic voting magnitude score for each of the 19 years in the current sample. There does in fact appear to be a temporal trend here with the magnitude of the economic vote clearly declining particularly when we compare the pre- and post-1990 period. Up until 1988 the PM economic vote measure hovered around 8%. After 1988, the median PM economic vote magnitude in any particular year was closer to the 5% level. In general, these temporal trends appear to support the arguments that levels of economic of voting have changed although a precise explanation for these trends has not been established and is beyond the scope of this essay.<sup>10</sup>

<sup>10</sup> In Duch and Stevenson (2005) we develop a competency model of the economic vote that helps explain both this temporal variation and the cross-national variation identified in the earlier section.

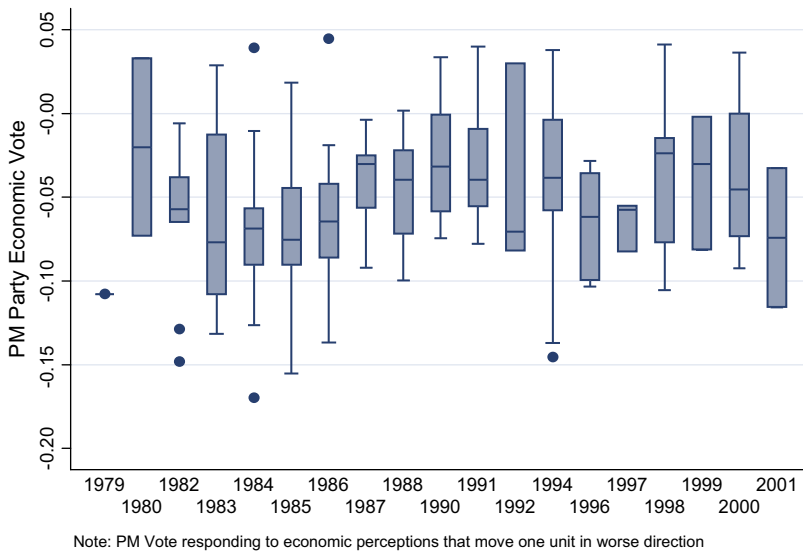


Fig. 3. Magnitude of the PM economic vote by year.

## 8. Conclusion

The conventional wisdom amongst politicians, political pundits, media personalities and even academics is that the economy matters when it comes to voting decisions. And even the most casual students of politics would seem to believe that this phenomenon is ubiquitous across the developed democracies. But, the cross-national evidence of the widespread impact of the economy on the party preferences of voters is rather limited. Recent data and methodological developments have significantly improved our ability to rigorously measure the magnitude of the economic vote and its variation cross-nationally and over time. First, the accumulation of four decades of individual-level voter preference survey data from most of the developed democracies provides an unprecedented opportunity to assess the impact of economic evaluations on voter preferences in a rigorous fashion and based on a relatively large  $N$  sample. The results summarized in this essay are based on [Duch and Stevenson's \(2005\)](#) analysis of 163 voter preference surveys in 19 countries and over a 20-year period.

Just as importantly, recent methodological advances offer the tools for analyzing these voter preference studies. Two methodological advances are of particular importance for the analysis described in this essay. First, new multi-level methods for analyzing these data provide an important tool for both comparing the magnitude of the economic vote across countries but also for testing hypotheses employing aggregate-level measures such as the institutional characteristics of nation states. This essay summarizes the two-stage multi-level method developed by [Duch and Stevenson \(2005\)](#) and provides a description of how the economic vote varies across countries and over time. Second, over the past decade it has become widely accepted



that models of vote choice in multi-party contexts should employ estimators appropriate for multichotomous dependent variables. Again, [Duch and Stevenson \(2005\)](#) have developed a novel strategy for incorporating multinomial logit estimates as part of a two-state multi-level estimation strategy in order to assess the magnitude of the economic vote and how it varies over time and cross-nationally.

Leveraging this accumulation of voter preference surveys and these recent methodological advances we are able to demonstrate quite rigorously the extent of economic voting in developed democracies. Yes, there is economic voting in developed democracies. How much economic voting? It varies across national contexts and over time, as we demonstrate in this essay, but we situate the median impact of economic evaluations on the vote probabilities of incumbent PM parties at approximately 5%. Establishing that the magnitude of the economic vote is significant and that it varies cross-nationally and over time is an important advance in the economic voting field. This is essentially a descriptive exercise. But it clearly lays out the theoretical and empirical challenges to the economic voting field. What are the appropriate theories for explaining this cross-sectional and temporal variation in the economic vote? [Duch and Stevenson \(2005\)](#) develop and test a competency theory of the economic vote that builds on the methods and data described in this essay.

## Appendix A

Listing of country studies included in first stage individual-level analysis

National election studies	EuroBarometer studies	EuroBarometer studies
Australia 87	Belgium 82	Greece 82
Australia 90	Belgium 83	Greece 83
Australia 93	Belgium 84	Greece 84
Australia 96	Belgium 85	Greece 85
Australia 98	Belgium 86	Greece 86
Australia 01	Belgium 87	Greece 87
Belgium 99	Belgium 88	Greece 88
Canada 88	Belgium 90	Greece 90
Canada 93	Belgium 91	Greece 91
Canada 97	Belgium 93	Greece 93
Canada 02	Belgium 94	Greece 94
Denmark 90	Denmark 82	Ireland 82
Denmark 94	Denmark 83	Ireland 83
Denmark 98	Denmark 84	Ireland 84
Dutch 98	Denmark 85	Ireland 85
Iceland 99	Denmark 86	Ireland 86
Norway 97	Denmark 87	Ireland 87
NZ 93	Denmark 88	Ireland 88
NZ 96	Denmark 90	Ireland 90
NZ 99	Denmark 91	Ireland 91
Portugal 02	Denmark 93	Ireland 93
Spain 96	Denmark 94	Ireland 94
Spain 00	Netherlands 82	Italy 86
Sweden 85	Netherlands 83	Italy 87

## Appendix A (continued)

National election studies	EuroBarometer studies	EuroBarometer studies
Sweden 88	Netherlands 84	Italy 88
Sweden 91	Netherlands 85	Italy 90
Sweden 98	Netherlands 86	Italy 91
UK 79	Netherlands 87	Italy 93
UK 92	Netherlands 88	Italy 94
UK 97	Netherlands 90	Norway 91
UK 01	Netherlands 91	Norway 93
US Congress 80	Netherlands 93	Norway 94
US Congress 82	Netherlands 94	Portugal 85
US Congress 84	France 82	Portugal 86
US Congress 86	France 83	Portugal 87
US Congress 88	France 84	Portugal 88
US Congress 90	France 84	Portugal 90
US Congress 92	France 85	Portugal 91
US Congress 94	France 86	Portugal 93
US Congress 96	France 87	Portugal 94
US Congress 98	France 88	Spain 85
US Congress 00	France 90	Spain 86
US Presidential 80	France 91	Spain 87
US Presidential 84	France 93	Spain 88
US Presidential 88	France 94	Spain 90
US Presidential 92	Germany 82	Spain 91
US Presidential 96	Germany 83	Spain 93
US Presidential 00	Germany 84	Spain 94
	Germany 84	UK 82
	Germany 85	UK 83
	Germany 86	UK 84
	Germany 87	UK 84
	Germany 88	UK 85
	Germany 90	UK 86
	Germany 91	UK 87
	Germany 93	UK 88
	Germany 94	UK 90
		UK 91
		UK 93
		UK 94

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