

Who Votes for the Future? Information, Expectations, and Endogeneity in Economic Voting

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Abstract Voters' four primary evaluations of the economy—retrospective national, retrospective pocketbook, prospective national, and prospective pocketbook—vary in the cognitive steps necessary to link economic outcomes to candidates in elections. We hypothesize that the effects of the different economic evaluations on vote choice vary with a voter's ability to acquire information and anticipate the election outcome. Using data from the 1980 through 2004 US presidential elections, we estimate a model of vote choice that includes all four economic evaluations as well as information and uncertainty moderators. The effects of retrospective evaluations on vote choice do not vary by voter information. Prospective economic evaluations weigh in the decisions of the most informed voters, who rely on prospective national evaluations when they believe the incumbent party will win and on prospective pocketbook evaluations when they are uncertain about the election outcome or believe that the challenger will win. Voters who have accurate expectations about who will win the election show the strongest relationship between their vote choice and sociotropic evaluations of the economy, both retrospective and prospective.

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Replication Materials The data, code, and any additional materials required to replicate the analyses in this article are available on the Political Behavior Dataverse within the Harvard Dataverse Network, at: <https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi%3A10.7910%2FDVN%2FDIIQF7>.

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Voters whose economic evaluations are most likely to be endogenous to vote choice show a weaker relationship between economic evaluations and their votes than the voters who appear to be more objective in their assessments of the election. Economic voting is broader and more prospective than previously accepted, and concerns about endogeneity in economic evaluations are overstated.

Keywords Economic voting · Information · Political sophistication · Uncertainty · Attribution · Presidential elections

Introduction

“Economic voting” typically implies that voters choose candidates in an election based on recent national economic conditions. However, different voters may evaluate the economy in different ways. Some voters may focus on past economic performance, others may form expectations about the future. Some voters may cast their votes based on national economic conditions while others may consider their personal economic well-being.¹ A voter’s ability to utilize economic evaluations when voting may hinge on both characteristics of the voter and of the election.

Despite the variety of evaluations and the multitude of factors potentially involved in economic voting, the predominant finding is that there is a strong positive relationship between vote choice and evaluations of the national economy in the recent past (Lewis-Beck and Stegmaier 2000). Several studies also link vote choice to personal, or pocketbook, evaluations of the economy (Goren 1997; Gomez and Wilson 2001), as well as forward looking, or prospective, evaluations (Lockerbie 2008; Mackuen et al. 1992). Other researchers have called into question the very nature of the correlation between evaluations of the economy and vote choice by considering the potential for spuriousness and endogeneity (Fiorina 1981; Erikson 2004; Anderson et al. 2004; Evans and Andersen 2006; Evans and Pickup 2010; Hansford and Gomez 2015). These studies argue that a person’s intended vote influences their perception of the economy, rather than the reverse. In a comprehensive review, Anderson (2007) describes the inconsistent findings in the economic voting literature as a problem of “contingency dilemmas,” since the effect of the economy on vote choice may depend on characteristics of voters and electoral contexts.

Discrepancies in studies of economic voting create a crisis from the perspective of normative democratic theory. Economic voting is a prime example of voters holding their elected representatives accountable (see Gomez and Wilson 2001; Rudolph 2003). Many modern scholars equate representative democracy with accountability (Riker 1965; Powell 2000), or how well voters are able to reward or punish their elected representatives. The ability of voters to attribute blame or credit for the economy suggests a properly functioning democracy that links individuals’ preferences and experiences with their votes (see Downs 1957; Key 1966). Should

¹ Other extensions of the concept of economic voting include positional voting (Stokes 1963), economic insecurity (Mughan and Lacy 2002), patrimonial voting (Nadeau et al. 2010), and benefit from government taxes and spending (Lacy 2014).

the economy not affect voting, or should perceptions of the economy be a consequence rather than a cause of a person's intended vote, then one of the most powerful mechanisms of representative accountability is suspect.

Anderson (2007) details two primary limits to accountability in economic voting: institutional and individual. Both institutional and individual heterogeneity make it difficult to uncover the potential role of the economy in voting. Institutional limits primarily involve particular contexts that reduce the clarity of responsibility. For example, the electoral context of proportional representation may make it harder to attribute blame to a single party. Individual constraints include the variance in information, political predispositions, and other factors that may influence economic evaluations or moderate their relationship with vote choice. In this article we directly address Anderson's call for serious consideration of the limits of accountability by exploring the roles of both individual and institutional heterogeneity in economic voting. We do so by considering the full range of economic evaluations, both retrospective and prospective, egocentric and sociotropic, across multiple presidential elections.

We posit that voters do not focus entirely on one evaluation of the economy, but rather have multiple evaluations of the economy and use each *to the extent that they are capable*. We explore how individual differences, particularly political information or sophistication (see Fiorina 1981; Sniderman et al., 1990; Gomez and Wilson 2001; Godbout and Belanger 2007a; Moon 1990; Delli Carpini and Keeter 1996; Goren 1997) as well as voters' expectations about the outcome of the election (see Haller and Norpoth 1997; Ladner and Wlezien 2007; Singer and Carlin 2013; Hansford and Gomez 2015), illuminate the extent to which individuals' economic voting hinges on the limits of accountability. The results show that these limits apply primarily to the retrospective versus prospective dimension of economic evaluations rather than to the sociotropic versus egocentric dimension. The cognitively more burdensome task of prospective voting requires clarity of responsibility, which can be overcome by a voter's information and expectations about the outcome of the election.

A comprehensive model of vote choice that includes a voter's retrospective and prospective evaluations of the economy as well as national versus personal economic performance forms the foundation of the analysis. We adjudicate among the four types of economic voting by testing a comprehensive model across seven U.S. presidential elections. The analysis reveals that even though most voters weigh retrospective evaluations of the national economy more heavily than other economic evaluations in the voting booth, the most informed voters weigh prospective considerations at least as much as retrospective considerations. The effect of prospective economic evaluations also depends on a voter's expectations about whether the incumbent party's candidate will win the election.

A further test of the hypotheses examines the accuracy of voters' expectations about the election outcome. Accurate expectations are one measure of a voter's information and sophistication. While voters' economic evaluations may be endogenous to vote choice, as a number of studies show (Fiorina 1981; Erikson 2004; Anderson et al. 2004; Evans and Andersen 2006; Evans and Pickup 2010; Hansford and Gomez 2015), the degree of endogeneity likely varies among voters. We find that voters whose economic evaluations are heavily weighted by their

partisan wishful thinking about the election outcome are less likely than other voters to vote based on economic conditions, making endogeneity less troublesome for research on economic voting than several studies imply.

Cognitive Steps for Economic Evaluations

Individuals vary in at least two ways in their ability to make the accountability link. The first source of variation is the more obvious and more explored variable of individual information or sophistication. Voters vary in their ability to acquire and retain political information (Zaller 1992; Delli Carpini and Keeter 1996). Studies show that a voter's education (Fiorina 1981; Sniderman et al., 1990), sophistication (Gomez and Wilson 2001; Godbout and Belanger 2007a), and information (Moon 1990; Delli Carpini and Keeter 1996; Goren 1997) all influence the relationship between economic evaluations and the vote. But these studies point to different conclusions. Some studies find that retrospective economic evaluations have a consistent effect across voter information or education levels (Fiorina 1981; Moon 1990). Other studies find that voter information increases retrospective voting (Delli Carpini and Keeter 1996; Goren 1997), while still others find that that education decreases retrospective voting (Sniderman et al., 1990). Some studies find that voter sophistication increases retrospective pocketbook voting (Gomez and Wilson (2001), 2006, 2007), while others find no such effect (Godbout and Belanger 2007a).

The second source of variation in the accountability link is the outcome of the election (see Haller and Norpoth 1997; Ladner and Wlezien 2007; Singer and Carlin 2013; Hansford and Gomez 2015). At the individual level, some voters are sufficiently informed or realistic enough to anticipate the outcome of the election. At the contextual level, some elections result in a change of the party in the White House, and, presumably, a change in economic policies that suggests a greater informational hurdle for voters to form prospective evaluations. Some voters will have the information necessary to incorporate a change in administration into their economic expectations, others will not. In sum, both variables—information and expectations—have the potential to enable voters to use prospective evaluations of the economy in their voting decisions. In the former, more informed voters can gather information that allows them to compare the future economic policies of the candidates. In the latter, voters can use what they know about the likely election outcome to anticipate future economic outcomes.

Most of the literature on information-based heterogeneity in economic voting has focused on retrospective sociotropic versus pocketbook evaluations (Delli Carpini and Keeter 1996; Gomez and Wilson 2001; Godbout and Belanger 2007b), perhaps out of the convenience that survey-based retrospective evaluations allow. The question these studies seek to answer is whether retrospective sociotropic voting is more or less likely than retrospective pocketbook voting among voters who have little information or who lack sophistication. Delli Carpini and Keeter (1996) answer the question by focusing on the information requirements of evaluations of the national economy compared to a voter's own financial situation, finding that less

informed voters rely on pocketbook considerations while more informed voters have the capacity to rely on evaluations of the national economy. Gomez and Wilson (2001) answer the question by examining the difficulty of attributing changes in political leadership to personal economic performance compared to national economic conditions. They find that voters with low levels of information are less able than voters with high levels of information to connect their personal economic condition to changes in political leadership, which attenuates the effect of pocketbook considerations on the vote for the least informed voters.

The effect of voter information on retrospective and prospective voting has received less scholarly attention than the sociotropic–pocketbook distinction. In their study of presidential approval, Mackuen et al. (1992) distinguish between “peasants,” who evaluate the president based only on past economic performance, and “bankers,” who evaluate expected future performance. On average, the American public are bankers rather than peasants, prospective rather than retrospective in their approval of the president based on the economy. The micro-foundations of their argument have not been tested to determine whether more informed voters, the bankers, vote prospectively while the least informed, the peasants, vote retrospectively. We focus on the cognitive steps voters must take to reach informed judgments about the connection between policymakers and economic performance. Our work stems from a combination of the theories that attribution is the primary moderator of the relationship between economic evaluations and the vote (Gomez and Wilson 2001) and that prospective evaluations require more sophistication than retrospective evaluations (Mackuen et al. 1992).

Retrospective evaluations of the national economy require only one cognitive step between knowing the identity of the incumbent party and knowing whether the economy worsened: blaming the incumbent president or party for the change. Rudolph (2003) shows that voters who cannot make this link are less likely than those who can to use evaluations of the economy in their voting decisions. Even voters with very little information will know the incumbent president and have a general sense of national economic conditions. US elections provide an abundance of information about the economy. The state of the national economy is one of the most discussed topics during campaigns (Anderson 1995), thereby reducing the chance that the public is unaware of the general state of the economy. Granted, some people may lack this basic information, and, if they vote, are likely choosing candidates based on non-policy factors. Given the low cognitive burden of retrospective sociotropic voting, evaluations of past national economic conditions affect the vote choice of voters at all levels of information.

Retrospective pocketbook evaluations demand an additional cognitive step beyond retrospective sociotropic evaluations in linking one’s personal economic performance to changes in national economic conditions. According to Gomez and Wilson (2001), voters must be able to assess how changes in unemployment, inflation, or growth affect their own personal finances and then link those national economic variables to the incumbent president. Voters who cannot make this link will show little connection between retrospective pocketbook evaluations and their choice of candidates.

Prospective national economic evaluations require a cognitive step beyond either retrospective sociotropic or pocketbook evaluations. Voters must gather information on the platforms of the competing candidates, link the candidates to potential changes in national economic conditions, and anticipate who will win the election. Anticipating future national economic performance will be easier when the incumbent party is likely to win the election and continue past policies. But if the challenger is likely to win, voters must anticipate how changes in policy will affect the economy. Prospective voting poses a significant challenge to voters who cannot acquire and retain the information necessary to compare competing candidate platforms and judge their effect on the economy. For this reason, the greater effect of information on economic voting will appear not between retrospective sociotropic and retrospective pocketbook voting, but between retrospective and prospective voting.

Prospective pocketbook evaluations require yet another cognitive step beyond prospective national economic evaluations. Voters must anticipate how changes in national economic policy brought about by each of the candidates will affect the national economy as well as how those changes will affect their own finances. The attribution problem identified by Gomez and Wilson (2001) is magnified at the prospective level. Furthermore, the information required to anticipate one's future economic performance will be less burdensome when the incumbent is likely to win the election than when the challenger might win, leading to a change in national economic policies.

Hypotheses

Highly-informed voters are able to connect several links in a causal chain of attribution by being able to acquire and retain the information necessary to attribute blame or reward for economic conditions. As voters make each cognitive step to bring economic evaluations into their voting decisions, they do not discard the easier evaluations. Instead, voters accumulate all of the economic evaluations they are capable of forming and vote based on a mixture of these. Highly-informed voters will be able to use more of the four economic evaluations than less informed voters. The first hypothesis expresses the relationship between voter information and the complexity of economic voting:

Hypothesis 1 [Evaluative Complexity] Highly-informed voters use a wider range of economic evaluations compared to less-informed voters.

The next two hypotheses delineate prospective from retrospective voting. We expect all voters to use retrospective sociotropic evaluations in their voting decisions, regardless of information level. This is not simply because a preponderance of studies support the proposition that retrospective sociotropic evaluations of the economy correlate with vote choice (e.g. Kinder and Kiewiet 1981; Lewis-Beck 1988a; Lewis-Beck and Paldam 2000), but also because US elections provide an abundance of information about the national economy (Anderson 1995), which reduces the cognitive burden of formulating an evaluation.

Hypothesis 2A [Information-Invariant Retrospection] Retrospective economic evaluations influence the vote choice of voters across all information levels.

Prospective evaluations require additional cognitive steps of voters. Voters must learn about the competing platforms and form expectations about future economic outcomes under each candidate. Voters with higher levels of information will show a greater effect of prospective evaluations on their vote than voters with lower levels of information.

Hypothesis 2B [High Information Prospection] The effect of prospective economic evaluations on vote choice increases with voter information.

The next set of hypotheses distinguish sociotropic from pocketbook voting. Our theory of the cognitive steps required for each economic evaluation is rooted in the argument that attribution of personal economic conditions to policymakers is more difficult than attribution of national economic conditions (Gomez and Wilson 2001). However, a competing theory due to Kinder and Kiewiet (1981) holds that voters discount their own personal economic performance in the voting booth. Kinder and Kiewiet find that retrospective economic voting in American elections is driven more by sociotropic evaluations than egocentric evaluations of the economy. They argue that this difference is not due to informational demands of connecting one's personal economic experience to national economic conditions, but to the psychology of individual responsibility. Cross-national studies also show that Americans are more likely than Europeans to assign limited blame to the role of government for an individual's past and current economic condition (Alesina and Glaeser 2004). The tendency of people, or at least Americans, to attribute their financial circumstances to their own actions or local conditions more than national conditions works both directions. People congratulate themselves rather than the incumbent president for their past economic successes and blame themselves rather than the president for their economic problems. This leads to Hypothesis 3:

Hypothesis 3 [Personal Responsibility] Pocketbook evaluations have a weaker effect on vote choice than sociotropic evaluations.

Hypothesis 3 is well-established in studies of economic voting (Kinder and Kiewiet 1981). It is important to recognize the role of personal responsibility in suppressing the effect of pocketbook retrospective evaluations on vote choice, even among less informed voters. Not only do we expect that political information does not moderate the effect of pocketbook retrospective evaluations on vote choice, we also expect that pocketbook retrospective evaluations will have less of an effect on vote choice compared to sociotropic evaluations due to the influence of personal responsibility.

General theories about blame attribution—individuals attribute their personal financial situation to themselves—offer a different rationale than specific theories about economic attributions (Gomez and Wilson 2001) that retrospective pocketbook voting will have minimal effects in elections. Voters discounting their own past economic performance due to personal responsibility should hold regardless of

their information. It is the voter's psychological orientation toward their past individual economic situation, not their information or sophistication, that minimizes the role of retrospective pocketbook evaluations in elections. This leads to the hypothesis that the effect of pocketbook retrospective evaluations is suppressed compared to sociotropic retrospective evaluations due to attitudes about personal responsibility for past performance.

The role of personal responsibility in prospective evaluations is less clear. The psychology of blame attribution does not clearly extend to voters associating their expected future economic performance with vote choice. However, we believe that personal responsibility also suppresses prospective egocentric voting. Voters who give themselves credit or blame for their past economic condition may incorporate expected changes in political leadership into their anticipated future economic outcomes. Holding oneself accountable for past economic performance implies that voters also hold themselves accountable for anticipating and adapting to or overcoming changes in political leadership or economic policy. In short, the past is past in retrospective pocketbook evaluations of the economy and no longer relevant to vote choice. But the future is still relevant to vote choice, regardless of whether the future takes the form of pocketbook or sociotropic evaluations.

Prospective pocketbook voting under uncertainty is the most cognitively difficult form of economic voting. When voters do not know who will win the election or believe that the challenger will win, they must anticipate potential changes in economic policy, link those to changes in national economic conditions, and then link changes in the national economy to their own economic performance. Only the most highly-informed voters will have the information necessary to make these links and vote based on their expected future economic performance. On the other hand, voters who expect the incumbent party will win the election can rely on the past as a guide to the future and will not have to connect changes in future policy to changes in the national economy and then to changes in their personal finances.

Hypothesis 4 [Policy Change] Uncertainty about the election outcome or an anticipated change in the party of the president induce prospective pocketbook voting among only highly-informed voters.

Taken together, the hypotheses imply that the debate about whether information matters more for retrospective national or retrospective pocketbook voting (Gomez and Wilson 2001; Godbout and Belanger 2007a) is misplaced since a voter's ability to acquire and retain information has a more critical role in the difference between retrospective and prospective voting. While the informational requirements of sociotropic and egocentric voting may differ, the informational requirements of retrospective and prospective voting differ more. Furthermore, information differences between retrospective sociotropic and pocketbook voting posited by Gomez and Wilson (2001) are tempered by attitudes of personal responsibility for past performance.

Modeling the Effect of Information on Economic Voting

Many previous studies of economic voting are limited by several potential mis-specifications: (1) election peculiarities can bias studies that rely on data from a small number of elections; (2) survey measures of prospective evaluations of the economy prime voter partisanship rather than real economic evaluations; (3) prospective evaluations of the economy should be conditional on expectations about which candidate will win the election; (4) voter heterogeneity, particularly information, can lead to different effects of economic evaluations across voters; and (5) failure to consider all four types of economic voting may create omitted variables bias. We account for these pitfalls in a comprehensive model of vote choice in US presidential elections across more than two decades.

Our study relies on a series of surveys from nationally representative samples conducted by the American National Election Studies (ANES). Specifically, the data we utilize encompass the seven presidential elections from 1980 to 2004.² The pooled data set offers numerous benefits to capture variation in electoral context. Two election years had an open seat, one following a Republican (Reagan in 1988) and one following a Democrat (Clinton in 2000). The Republicans had an incumbent in four elections and the Democrats in three elections in our analysis.

Previous studies of economic voting use a variety of different survey measures to capture vote choice.³ In our model, the dependent variable is measured dichotomously and coded as the vote for either the incumbent party (1) or the major party challenger (0) in the post-election studies.⁴

The key independent variables are measures of economic evaluation. Subjective evaluations of the economy—voters' perceptions—rather than objective economic data form the basis of this study for three reasons. First, it is the “observed economy” as experienced and perceived by voters that is at the center of theories of economic voting (Stevenson and Duch 2013). Second, objective economic variables almost always focus on national indicators, although state and local economic conditions and voters' perceptions about national economic indicators have as much or more influence on voters' economic experiences (Ansolabehere et al. 2014). Therefore, subjective economic evaluations reflect voters' real economic experience more than national aggregates. Third, and most importantly, prospective evaluations are inherently subjective since objective measures of future economic conditions are not available to voters at the time of voting. To keep retrospective evaluations on

² The 2008 ANES included in a split-half sample a new question to tap prospective voting. The new questions generally support the findings we report here, but the question format raises serious concerns about endogeneity. We report only the 1980–2004 results and present the 2008 results in an appendix.

³ Gomez and Wilson (2001) use candidate preferences in the ANES pre-election survey. It appears that the primary methodological reason for using candidate preference is the small number of observations on vote intention or vote choice that results from dividing the sample into four information levels, the lower of which have low turnout numbers. The use of a pooled seven-election data set affords us the luxury of overcoming such concerns by having large numbers of respondents in every information category.

⁴ Including major third parties or including all third parties as challengers in the models that follow does not change the results.

the same conceptual level as prospective evaluations, we must use voters' subjective assessments of the economy.

Since 1980 the ANES has asked respondents four questions about the economy, one corresponding to each of the four types of economic evaluations:

[Retrospective National] Would you say that over the past year the nation's economy has gotten worse, stayed about the same, or gotten better?

[Prospective National] What about the next 12 months? Do you expect the economy to get better, get worse, or stay about the same?⁵

[Retrospective Pocketbook] We are interested in how people are getting along financially these days. Would you say that you (and your family) are better off, worse off, or just about the same financially as you were a year ago?

[Prospective Pocketbook] Now looking ahead—do you think that a year from now you (and your family) will be better off financially or worse off, or just about the same as now?

Responses to all questions are coded as: better (1), stayed the same (0), and worse (−1). Our coding constrains the response options of “better” and “worse” to have symmetric effects on vote choice.⁶

The two prospective economic evaluations pose a measurement problem. If a voter believes that the economy will improve in the next year, it could be because she believes that the incumbent will win, in which case we expect her to vote for the incumbent. Or, she could believe that the incumbent will lose, and her expectation that the economy will improve should point to a vote for the challenger. Prospective economic perceptions offer ambiguous predictions about the relationship between the economy and vote choice unless expectations about who will win the election are included.

The ANES includes a question to tap voters' expectations about the election outcome, which enters the model as (1) the incumbent will win, (−1) the challenger will win, and (0) the voter does not know who will win. We interact this variable with prospective economic evaluations.⁷ When both variables have the same sign, a voter is more likely to vote for the incumbent: A person who believes the economy will grow worse in the future (−1) and who believes the challenger will win (−1) will have the same value on the interaction as someone who believes that the economy will improve (1) and that the incumbent will win (1). We hypothesize that

⁵ In 2000 the question read: “Do you expect the economy, in the country as a whole, to get better, stay about the same, or get worse?” The 2008 ANES contained a split-half design in which half of respondents answered the standard prospective question and the other half answered a new question asking respondents whether they believe the economy will get better or worse under each of the presidential candidates.

⁶ Some studies find different effects of the “better” and “worse” responses when included as separate dummy variables in a model, but we find that these differences are not generally statistically significant. Coding each evaluation on a single scale of −1, 0, 1 eases interpretation of the interaction effects and reduces the number of variables in the model.

⁷ Lanoue (1994) introduced this construction of prospective evaluations in his study of the 1984 and 1988 presidential elections. Duch et al. (2000) use a similar method to find in the 1992 presidential election that respondents' predictions about the election winner partly explain retrospective and prospective sociotropic evaluations of the economy.

both voters are more likely to vote for the incumbent. Similarly, opposite signs on the interacting variables predict a vote for the challenger: Believing that the economy will grow worse (-1) and the incumbent will win (1) should move a voter toward the challenger, as should believing that the economy will improve (1) and that the challenger will win (-1).

A voter's belief about the outcome of the election appears by itself in the model and interacted with all of the economic expectations. No theory predicts a relationship between retrospective evaluations of the economy and expectations about which candidate will win. However, the interactions with retrospective evaluations are necessary to assess whether the interaction correctly produces null results for retrospective evaluations, and to provide consistent comparisons across the four types of economic evaluations, since they are all interacted with the same variables.

Following the face-to-face interview with a respondent, ANES interviewers rate the respondent's level of political information on a five-point scale from very low to very high. Of the sample of respondents who voted, 2.62% are classified in the lowest information category, 12.35% are low-moderate, 34.5% are in the middle category, 33.0% are high-moderate, and 17.5% are in the highest information category.⁸ The measure may be biased if interviewers give higher scores to respondents who appear to be better informed due to socioeconomic characteristics (race, gender, or income, for instance), but Zaller (1985b) has found no such biases. Bartels (1996) also uses the interviewer rating as a measure of information. As a measure of relevant information, the interviewer rating works at least as well as direct knowledge tests of 10 to 15 point scales (p.338, Zaller 1992) and about as well as a 27-item NES index (Zaller 1985a).⁹

The model contains each economic evaluation interacted with the five-point interviewer rating of a voter's information, with expectations about the outcome of the election, and with both information and expectations. Information and expectations about who will win are also interacted since every component of a three-way interaction must be included in the model.

Party identification is in the model as a three-point scale measuring whether the respondent identifies with the incumbent's party (a value of 1), the challenger's party (-1), or is a pure Independent (0). Independent leaners count as partisans.¹⁰

The model also includes a voter's gender, race (African-American or other), and geographic region (South or non-South), all measured as dummy variables. These control for the possibility that information and tendencies to vote for one party may covary with voter characteristics. Income and age also appear in the model, centered

⁸ In the compiled dataset, only 130 cases are missing values for the interviewer information measure, making it a valuable measure across the years since 1980.

⁹ No other measure of voter information is available across elections due to changes in the content of the factual questions. The battery of questions used by Gomez and Wilson (2001) and Godbout and Belanger (2007a) is available starting only in 1988 and varies over the years in its focus on domestic political leaders, foreign leaders, media personalities, and political institutions and processes. The battery of factual questions also produces more missing cases than the interviewer rating.

¹⁰ The results are unchanged using the seven-point party identification scale. We use the three-category variable to facilitate partisan interactions in a subsequent model.

at their means and divided by two standard deviations of the variable.¹¹ The demographic variables are flipped—dummy variables are reverse coded and income and age are multiplied by (-1) —in years with Republican incumbents given that women and African-Americans tend to vote for Democrats while Southerners, higher income groups, and older voters tend to vote for Republicans.

The statistical model is a logit model with varying intercepts for each of the years in the study in order to control for election-specific contextual effects.¹² The model is estimated on two samples of voters. The first sample includes all voters who voted for one of the two major party candidates. The second sample excludes self-identified Democrats or Republicans who erroneously believe that their party's candidate will win the election.¹³ These partisans are engaging in wishful thinking and are the most likely voters to rationalize their economic evaluations due to partisan motivated reasoning (Campbell et al. 1960; Bartels 2002; Petersen et al. 2013). Excluding rationalizing voters from the secondary analysis ensures that any results showing a moderating effect of information on economic voting are not an artifact of voters with higher levels of information attempting to appear consistent in their attitudes by matching their economic evaluations to their vote choice.

Tables 1 and 2 show the results from the model estimated on the full sample and only on the non-rationalizing sample, respectively. Figure 1 presents the results graphically for both samples for ease of interpretation by showing the change in probability of voting for the incumbent party due to a one-unit change in each of the predictors, along with the 95 % confidence intervals.¹⁴

Figure 1 captures the effect of each economic evaluation when the other components of the interaction are zero: the voter is moderately informed and does not know who will win the election. In this case, a one unit change in retrospective national evaluations (a change from believing the economy was the same to believing it became better during the previous year) is associated with a .12 increase in the probability of voting for the incumbent, regardless of whether estimated on the full sample or non-rationalizers. Prospective national evaluations are also statistically significant, but with an increase in probability of voting for the incumbent of about .04. In the full sample estimates, both retrospective and prospective pocketbook evaluations have 95 % confidence intervals that overlap 0, indicating that their effect on vote choice is not statistically significant.¹⁵

¹¹ For the many cases of unreported income in the ANES data, we used multiple imputation to generate predicted values.

¹² The model with pooled years includes standard errors clustered by year.

¹³ The 2000 election is also dropped from this analysis since the ANES question about the election outcome does not distinguish between the Electoral College and popular vote winners, which were different in 2000.

¹⁴ A one unit change in each of the economic evaluations corresponds to a change from believing the economy was (or will be) worse to it was (or will be) the same, or from believing the economy is the same to believing it will be better. A one unit change in political information corresponds to a change of two standard deviations on the information scale.

¹⁵ One concern with the results may be possible high correlations among the economic evaluations. The highest correlation (τ_b) among the four economic evaluations is .255 between retrospective national and

Table 1 The Effects of Economic Evaluations on the Presidential Vote, 1980–2004

Predictor	Coefficient	Clustered SE
Party Identification	1.87*	.07
Income	-.27*	.10
Age (2 SD units)	-.13*	.06
Female	.12	.10
African-American	2.11*	.25
Southern	-.49*	.11
Information	-.39*	.11
Incumbent Will Win	.93*	.03
Information * Incumbent Will Win	-.09	.09
Retrospective National Evaluation	.46*	.09
Retrospective Pocketbook Evaluation	.16	.09
Prospective National Evaluation	.18*	.07
Prospective Pocketbook Evaluation	.03	.13
Inc Will Win * Retro National Eval	.03	.08
Inc Will Win * Retro Pocketbook Eval	.01	.05
Inc Will Win * Prosp National Eval	.09	.07
Inc Will Win * Prosp Pocketbook Eval	.27*	.13
Info * Retro National Evaluation	.11	.16
Info * Retro Pocketbook Evaluation	-.08	.15
Info * Prosp National Evaluation	.22	.16
Info * Prosp Pocketbook Evaluation	.41*	.20
Info * Inc. Will Win * Retro National Eval	-.03	.12
Info * Inc. Will Win * Retro Pocketbook Eval	.05	.09
Info * Inc. Will Win * Prosp National Eval	.27*	.11
Info * Inc. Will Win * Prosp Pocketbook Eval	-.35*	.08
1984	-1.09*	.25
1988	-1.23*	.25
1992	-.78*	.25
1996	.15	.06
2000	.54*	.07
2004	-1.10*	.25
(Intercept)	-.60*	.09

Note N = 6977, Likelihood Ratio = 5400, $p < .001$. % correctly predicted = 87.8

* Indicates $p < .05$, two-tailed

The two-way interactions of the economic evaluations with information show the effects when the voter does not know who will win the election (*Inc will win* = 0).

Footnote 15 continued

retrospective pocketbook evaluations. All other correlations among the economic evaluations are between .10 and .22.

Table 2 The Effects of Economic Evaluations on the Presidential Vote, Excluding Partisan Rationalizers, 1980–2004

Predictor	Coefficient	Clustered SE
Party Identification	1.90*	.05
Income	-.39*	.09
Age (2 SD units)	-.17	.10
Female	.06	.16
African-American	2.06*	.30
Southern	-.59*	.13
Information	-.44	.26
Incumbent Will Win	.99*	.10
Information * Incumbent Will Win	-.28	.16
Retrospective National Evaluation	.53*	.20
Retrospective Pocketbook Evaluation	.27*	.08
Prospective National Evaluation	.19*	.05
Prospective Pocketbook Evaluation	.06	.19
Inc Will Win * Retro National Eval	-.02	.13
Inc Will Win * Retro Pocketbook Eval	-.09	.09
Inc Will Win * Prosp National Eval	.12	.07
Inc Will Win * Prosp Pocketbook Eval	.21	.18
Info * Retro National Evaluation	.14	.34
Info * Retro Pocketbook Evaluation	-.14	.16
Info * Prosp National Evaluation	.46*	.14
Info * Prosp Pocketbook Evaluation	.30	.16
Info * Inc. Will Win * Retro National Eval	-.07	.24
Info * Inc. Will Win * Retro Pocketbook Eval	.16	.11
Info * Inc. Will Win * Prosp National Eval	.13*	.13
Info * Inc. Will Win * Prosp Pocketbook Eval	-.20	.12
1984	-1.36*	.33
1988	-1.48*	.31
1992	-.98*	.30
1996	-.10	.12
2000	-	-
2004	-1.27*	.31
(Intercept)	-.22	.15

Note $N = 4531$, Likelihood Ratio = 3371, $p < .001$. % correctly predicted = 86.7

* Indicates $p < .05$, two-tailed

The two-way interactions between information and expectations about the election outcome capture their effect for moderately informed voters (*Information* = 0). The interactions of retrospective economic evaluations with expected election outcome show the null results we anticipated. Neither of the retrospective evaluations has an

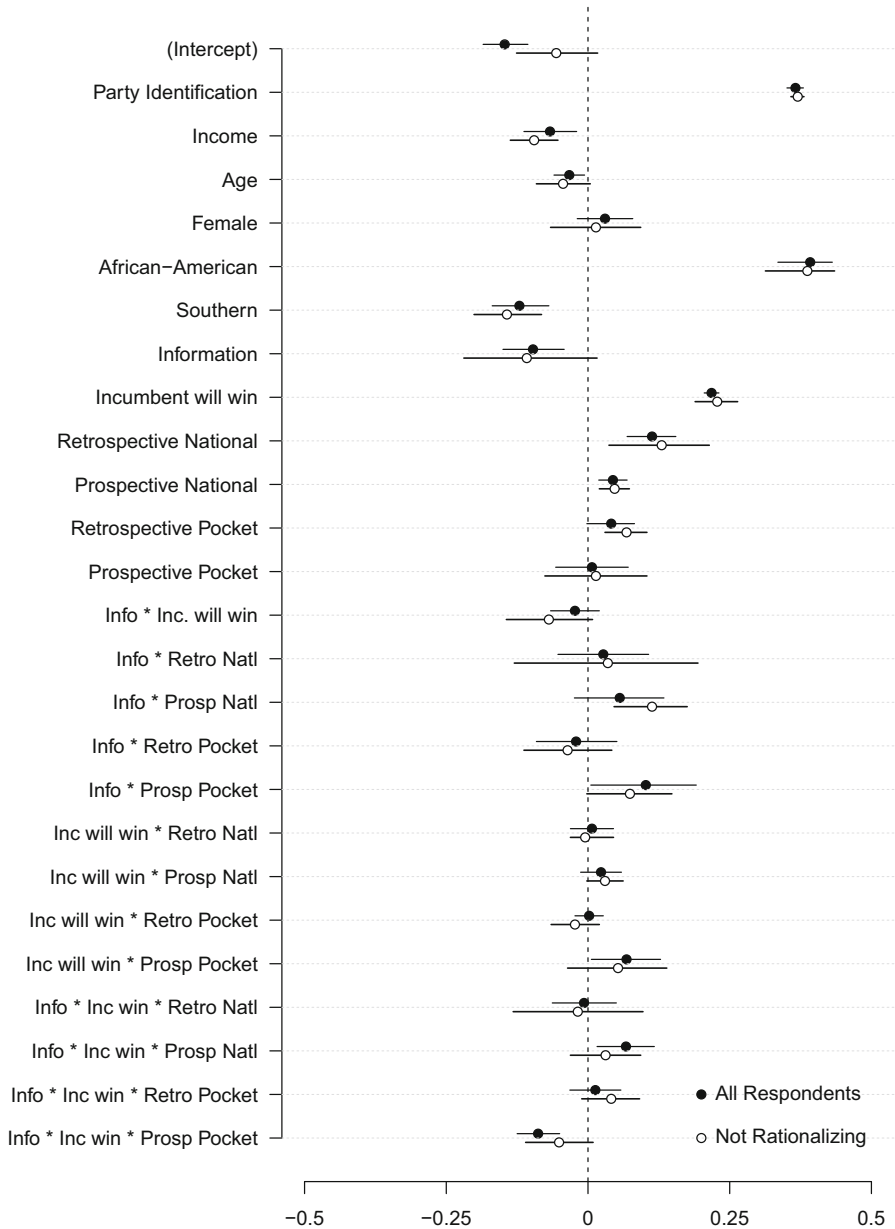


Fig. 1 The effects of economic evaluations on vote for incumbent party, 1980–2004. *Source* 1980–2004 American National Election Studies cumulative data file. *Dots* represent estimated change in probability of voting for the incumbent party due to one unit change in predictor. Income, age, female, African-American, and Southern capture change in probability of voting for Democratic candidate. All non-binary predictors scaled to 2 standard deviation units. *Horizontal lines* are 95 % confidence intervals

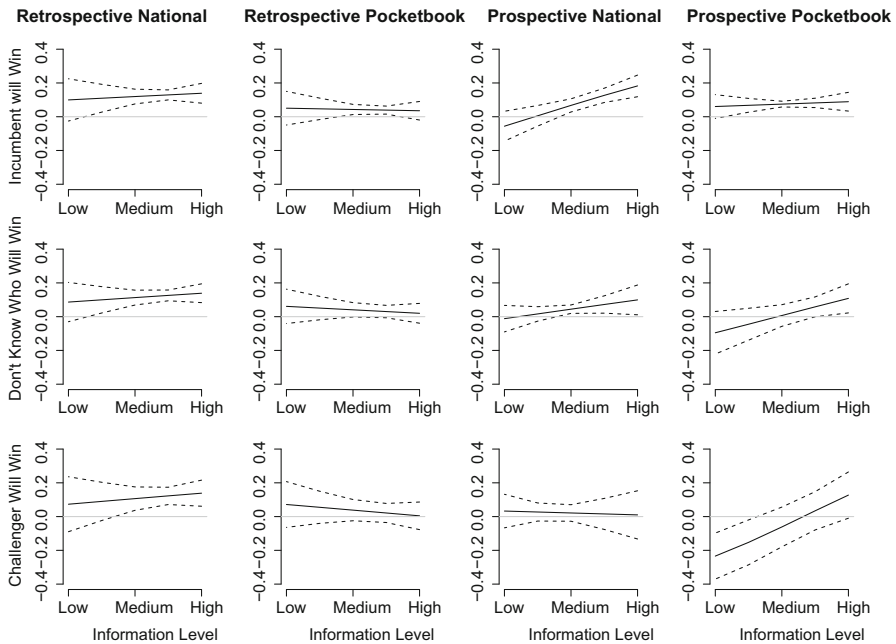


Fig. 2 The effects of economic evaluations on vote choice depend on voter information. Effect of four types of economic evaluations on the probability of voting for the incumbent as a function of voter’s level of political information, conditional on the voter’s expected outcome of the election. *Vertical axis* represents the increase in the probability of voting for the incumbent due to a one unit improvement in evaluations of the economy; *horizontal axis* is level of political information. *Solid lines* show the change in the probability of voting for the incumbent party due to a one unit change in evaluation of the economy. *Dashed lines* are 95 % confidence intervals. Results are from pooled data from 1980 to 2004 American National Election Studies

effect distinguishable from zero when interacted with expectations, meaning that expectations do not moderate the effects of retrospective evaluations. By contrast, expectations about which candidate will win the election moderate the effect of prospective pocketbook evaluations in the full sample, demonstrating the need to include an interaction with expectations about the election in any study of prospective economic voting.

The three-way interactions with expected election outcome and information serve as the primary test of the hypotheses. These effects are not directly interpretable from Fig. 1 since they are conditional on the voter’s expectations about the election outcome. Figure 2 unpacks these interactions for the full sample, and Fig. 3 for the sub-sample of voters who appear not to be rationalizing. The graphs capture the change in the probability of voting for the incumbent party’s candidate due to a one unit change in the evaluation of the economy, such as a change from believing the economy was (or will be) the same during the previous (or next) year to believing it was (or will be) better. Each of the four economic evaluations shown in the columns has three different graphs that depend on the voter’s beliefs about who will win the election. In each graph, the solid line shows

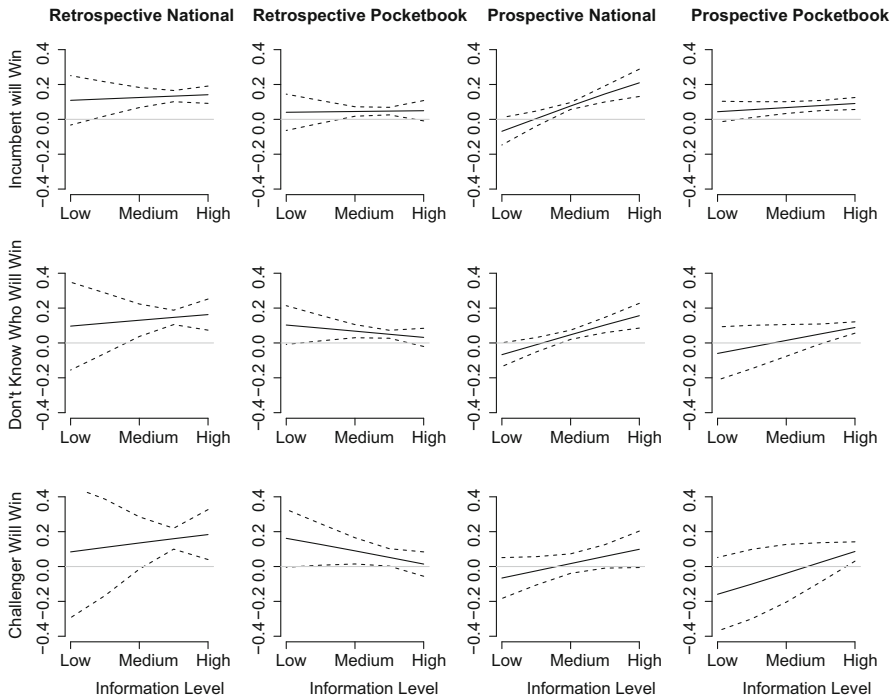


Fig. 3 The effects of economic evaluations on vote choice depend on voter information, excluding partisan rationalizers. Effect of four types of economic evaluations on the probability of voting for the incumbent as a function of voter’s level of political information, conditional on the voter’s expected outcome of the election. *Vertical axis* represents the increase in the probability of voting for the incumbent due to a one unit improvement in evaluations of the economy; *horizontal axis* is level of political information. *Solid lines* show the change in the probability of voting for the incumbent party due to a one unit change in evaluation of the economy. *Dashed lines* are 95 % confidence intervals. Results are from pooled data from 1980 to 2004 American National Election Studies, excluding partisans who incorrectly believe their candidate will win, and excluding the 2000 election

the change in the slope effect of economic evaluations on vote choice as information increases. Put differently, the solid line represents how much the probability of voting for the incumbent changes due to a one unit change in the economic evaluation for each level of voter information. Dotted lines represent the 95 % confidence interval for the estimated effect.¹⁶ All graphs have the same vertical axis, thus the heights of the lines can be compared across graphs to determine which evaluations have the greatest effect on the vote.

The first result is that the most informed voters show a significant relationship between nearly all of the economic expectations and vote choice, except for retrospective pocketbook evaluations. In the top row of graphs in both figures, capturing voters who believe the incumbent party will win, retrospective national, prospective national, and prospective pocketbook evaluations are all statistically

¹⁶ Coding the key independent variables on $-1, 0, 1$ scales and presenting graphs for all of their combinations avoids problems of interpreting interaction effects in logit models pointed out by Ai and Norton (2003).

significant and roughly the same magnitude in their effect for the most informed voters at the right edge of each graph. The middle row—those who don't know who will win—also shows statistically significant effects for the highly informed in all cases but retrospective pocketbook voting. The third row—voters who believe the challenger will win—shows that retrospective national and prospective pocketbook evaluations are significant predictors of vote choice for only the highly-informed voters. The results confirm Hypothesis 1 that highly informed voters use multiple economic evaluations in their voting decisions.

The second result is that retrospective national evaluations are significant across nearly all levels of voter information and for all expectations about the election outcome. Looking down the column of graphs under Retrospective National, the 95% confidence intervals cross the zero line showing no effect for only the very lowest information group—less than 3% of the sample—who believe the incumbent will win or who are uncertain about the election outcome. Among voters who believe the challenger will win, retrospective national evaluations are significant for all but the lowest two information categories, or for all but about 15% of voters. Put differently, retrospective national evaluations influence the vote of about 85 to 97% of voters, regardless of their expectations about the election outcome.

More importantly, the substantive effects of retrospective economic evaluations, whether sociotropic or pocketbook, do not vary much with voter information. The substantive effect of retrospective national evaluations is about the same for the least informed voters as for the most informed voters since the solid line showing the effect of retrospective national evaluations on vote choice is flat across the information categories, though the 95% confidence intervals expand at the lowest levels of voter information due to greater uncertainty in the estimates. Retrospective national evaluations show the largest substantive effect of all of the evaluations for voters at the very lowest information levels, though the effect is not quite statistically significant. For voters with low-to-moderate levels of political information and higher, or 97% of the sample, retrospective national evaluations are statistically significant and have the largest substantive effect of all of the economic evaluations. Substantively, the results confirm Hypothesis 2A, retrospective voting is invariant across information levels. The mostly flat graphs for retrospective national and retrospective pocketbook evaluations underscore that their effects are essentially the same across all voter information levels. At the highest information level, the solid line for retrospective national evaluations is within the 95 confidence interval of the lowest information level, indicating that highly informed voters are not statistically distinguishable from the least informed voters in the effect of economic evaluations on their votes. Among the non-rationalizers who believe the incumbent will win, the effect of retrospective national evaluations is consistent across information levels. However, among voters who are uncertain about the election or believe the challenger will win, retrospective national evaluations show a slightly increasing effect as voter information increases.

Retrospective pocketbook evaluations are not generally statistically significant for any information level or any expectation about who will win in the full sample. The exception is that the sample of non-rationalizers shows a significant effect only

among moderately informed voter regardless of their expectations about who will win the election. The effect of retrospective pocketbook evaluations also generally remains constant across information levels, with the sole exception of retrospective pocketbook voting among non-rationalizers who believe the challenger will win. The substantive effect of retrospective pocketbook evaluations are lower than for retrospective national evaluations across all information groups.¹⁷ The results lend strong support to Hypothesis 3 that voters discount their own past economic performance in the voting booth, consistent with the long-supported findings of Kinder and Kiewiet (1981). The results do not support the theory of economic attribution put forth by Gomez and Wilson (2001). However, the mechanism under Gomez and Wilson's theory of economic attribution and our theory depends on the cognitive steps necessary for voters to use economic evaluations. This mechanism could still be correct in the comparison between prospective and retrospective evaluations and between prospective sociotropic and pocketbook evaluations. Retrospective pocketbook evaluations are different due to the strong effects of personal responsibility.

The key result is that the effect of prospective evaluations of the economy, conditioned on a voter's expectations about who will win the election, generally increase as a voter's information level increases. In Fig. 2, the effect of the economy on vote choice increases with voter information for five of the six different combinations of prospective evaluations and expectations about who will win. Prospective evaluations are associated with the vote choice of the highly informed voters in all cases except for prospective national evaluations when a voter believes the challenger will win. For the non-rationalizers in Fig. 3, four combinations of prospective evaluations show a statistically significant moderating effect of information: prospective national evaluations when the voter believes the incumbent will win or is uncertain about the outcome, and prospective pocketbook evaluations when the voter believes the incumbent will win or is uncertain about the outcome. In no case do prospective evaluations explain the votes of the least-informed voters. These results support Hypothesis 2B that prospective voting in its various forms requires more cognitive steps than retrospective voting and is increasing in its effect on vote choice as voter information increases.

The exception to this result is the case of prospective pocketbook evaluations among voters who believe the incumbent party will win, with both the full sample and excluding partisan rationalizers. In this case prospective pocketbook evaluations are statistically significant across all voter information levels except the very lowest level, and the magnitude of the effect is consistent across information levels. Indeed, the effect line for prospective pocketbook evaluations looks much like the line for retrospective national evaluations, but shifted downward. However, once there is uncertainty about the election outcome or an expectation that the challenger will

¹⁷ These results are consistent with Godbout and Belanger (2007a). In Table 4 of their article, which presents the results for post-election recalled vote, the critical test is whether the coefficients for sociotropic and pocketbook evaluations differ between information groups, which in their model are scaled as 0 = lowest information and 1 = highest information. This difference is not statistically significant in their analysis for either sociotropic or pocketbook voting in any year, which is exactly what we find.

win, low- and moderately-informed voters show little effect of prospective pocketbook evaluations on vote choice. The result shows that low information voters vote prospectively when economic policy is unlikely to change after the election due to the re-election of the incumbent party.

Hypothesis 4 holds that the effects of prospective evaluations depend on the voter's expectations about the election outcome. Uncertainty in the form of not knowing who will win or expecting a change in the party in power adds an additional level of cognitive complexity to the link between prospective evaluations and vote choice. Our results show that when highly informed voters believe the incumbent will win, they use a mix of retrospective national, prospective national, and prospective pocketbook evaluations. When highly informed voters are uncertain about the election outcome, prospective national considerations decline in their effect while prospective pocketbook evaluations increase. When highly informed voters expect the challenging party to win, prospective national concerns weaken while prospective pocketbook concerns remain significant. The uncertainty of the future when a challenger will win appears to reorient the most informed voters to their own economic prospects and away from national concerns.

The results support the theory of the cognitive steps necessary to link economic evaluations to vote choice. Retrospective evaluations of the national economy are the simplest to link to vote choice, requiring only one cognitive step. Retrospective national evaluations show a consistent effect on the vote regardless of a voter's information level or expectations about the election outcome. At the very lowest levels of political information, the effects of retrospective national evaluations are not statistically significant, but, in many cases, their substantive effect on the vote holds steady across all information levels. The next cognitive step involves retrospective pocketbook evaluations. The effect of these evaluations on vote choice is constant but not statistically significant across information levels. We believe this non-effect of retrospective pocketbook voting is due to the personal responsibility hypothesis.

Economic evaluations requiring a third cognitive step—prospective national—show a pronounced moderating effect of political information. Prospective national evaluations have an increasing effect as a voter's information level rises and are statistically significant for the most informed two thirds of the electorate when voters believe the incumbent party will win re-election or are uncertain about the outcome. Prospective pocketbook evaluations are significant across all information levels when voters believe the incumbent will win. However, uncertainty about the election outcome or a possible change in the party in power require voters to make an additional cognitive step in prospective pocketbook evaluations to link changes in policy to changes in the national economy to their own pocketbooks. The results show that prospective pocketbook evaluations are significant among only the most informed voters when the election outcome is uncertain or the challenger is expected to win.¹⁸ Information moderates the relationship between prospective pocketbook evaluations and vote choice.

¹⁸ Prospective pocketbook evaluations are also statistically significant for the least informed voters when the challenger is expected to win, but the effect is negative.

The results synthesize several disparate findings in the literature. Prospective voting requires more information than retrospective voting. The most informed voters rely on prospective evaluations as much as retrospective evaluations. Moderately informed and highly informed voters are, to borrow terminology from Mackuen et al. (1992), “bankers” rather than “peasants.” Informed voters look to the future as much as they look to the past when evaluating candidates for office. Voters also generally weigh national economic conditions more than their own pocketbooks in the voting booth. When thinking about the past, voters clearly weigh sociotropic concerns more than their own pocketbooks, consistent with Kinder and Kiewiet (1981). When thinking prospectively, however, highly informed voters also use pocketbook evaluations in their decision-making, depending on their expectation about who will win the election.

Accurate Expectations and Partisan Delusions

The results thus far show that highly informed voters exhibit a greater effect of prospective economic evaluations on vote choice than less informed voters. It is possible that these results are an artifact of highly informed voters creating a more consistent worldview than other voters by matching their vote choice to their evaluations of the economy through partisan motivated reasoning (Campbell et al. 1960; Bartels 2002; Petersen et al. 2013). Motivated reasoners tend to hold fast to false beliefs, in this case about the election outcome. When confronted with the cognitive dissonance of supporting a candidate who presided over a declining economy, or supporting a challenger who faces an incumbent during an improving economy, motivated reasoners will distort their economic evaluations to match their prior candidate preference (see Festinger 1957). Some studies of economic voting suggest that economic evaluations are partly if not largely determined by a person’s vote (Kramer 1983; Wlezien et al. 1997; Anderson et al. 2004; Evans and Andersen 2006; Evans and Pickup 2010; Hansford and Gomez 2015). These studies show that, on average, various economic evaluations are determined by a voter’s candidate or party preference. Other studies rebut this claim, arguing that economic evaluations determine the vote rather than the other way around (Lewis-Beck 1988b) and that subjective economic evaluations incorporate real economic information (Ansolabehere et al. 2014).

To gauge whether partisan motivated reasoning is driving the close association between information and prospective voting, we turn to voter’s expectations about the election outcome. Voters who can accurately predict the election outcome, regardless of whether their preferred candidate is the winner, are more likely to see the political world objectively than voters who have inaccurate expectations. *Accurate expectations* is a binary variable indicating whether the voter accurately chooses the winner in the pre-election survey (=1) or does not know or mis-predicts the election outcome (=0). Across all years in the sample, 65.5 % of voters correctly predict the election outcome, with a high of 87 % in 1984 and a low of 42 % in 1980. We drop the 2000 election from the analysis. This variable is interacted in the model with each of the four economic evaluations. The partisan motivated

reasoning hypothesis implies that voters who have inaccurate expectations about the outcome of the election will show a closer relationship between their economic evaluations and vote choice since they will engage in a form of cognitive dissonance reduction by adjusting their economic evaluations to match their vote choice. If voters are not engaging in partisan motivated reasoning and the measures of economic voting are not due to voter subjectivity, then the effect of economic evaluations on the vote should be no greater for voters who have inaccurate expectations about the election than for voters who have accurate expectations.

Examining voters who are uncertain or incorrect about the election outcome may cast too wide a net. The key set of motivated reasoners for whom economic evaluations may be endogenous are partisans who believe erroneously that their party's candidate will win. These voters may be rationalizing their economic evaluations, which would artificially increase the effect of economic voting. In a separate model, the rationalizing voters are measured by a variable that has a value of (1) for voters who wrongly believe that their party's candidate will win the election and (0) for all others, including voters who do not know who will win. These rationalizing voters are 17 % of all voters in the sample, a number that ranges from a low of 9.5 % in 1984 to a high of 36 % in 1980. We test the hypothesis that the relationship between economic evaluations and vote choice is stronger for rationalizing voters, who are motivated to make their evaluations of the economy consistent with their partisan preference, than for the rest of the electorate. The model includes a voter's party identification, race, gender, income, age, and residence in the South, all measured as in the previous models.

The results from the two models appear in Tables 3, 4 and Fig. 4. Figure 4 shows the change in the probability of voting for the incumbent party due to a one unit change in each economic evaluation, conditional on whether a voter's expectations about the election outcome are accurate or inaccurate, and whether the voter appears to be rationalizing or not rationalizing. Positive values of the economic evaluations and interactions indicate that a voter who believes the economy has improved or will improve has a higher probability of voting for the incumbent party, or that a voter who believes the economy has worsened or will worsen has a higher probability of voting for the challenger. Positive values of the demographic variables indicate a vote for the Democratic candidate.

The results do not support the hypothesis that inaccurate expectations about the election outcome or partisan rationalizing generate a stronger relationship between economic evaluations and vote choice. In fact, the reverse is true for many evaluations. Voters who have accurate expectations about the election outcome, and who are likely to be the most objective, show statistically significant associations between their vote decisions and all of the economic evaluations except for prospective pocketbook. Retrospective national evaluations show by far the strongest effect on vote choice, followed by prospective national, prospective pocketbook, and then retrospective pocketbook. Among voters with inaccurate expectations about the election, only retrospective pocketbook evaluations have a statistically significant effect on vote choice. The weakest effects are for retrospective sociotropic evaluations among voters with inaccurate expectations or who appear to be rationalizing.

Table 3 The Effects of Economic Evaluations on the Presidential Vote, Accurate Versus Inaccurate Expectations about Election Outcome, 1980–2004

Predictor	Coefficient	Clustered SE
Party Identification	1.90*	.07
Income	-.29*	.09
Age (2 SD units)	-.16*	.07
Female	.06	.15
African-American	2.05*	.29
Southern	-.51*	.12
Inaccurate Belief about Election Outcome	-.42	.55
Retrospective National Evaluation	.92*	.16
Retrospective Pocketbook Evaluation	.14*	.03
Prospective National Evaluation	.36*	.06
Prospective Pocketbook Evaluation	.22	.12
Inaccurate * Retro National Eval	-.98*	.20
Inaccurate * Retro Pocketbook Eval	.19*	.09
Inaccurate* Prosp National Eval	-.12	.15
Inaccurate * Prosp Pocketbook Eval	-.17	.15
1984	-.61*	.21
1988	-.88*	.19
1992	-1.05*	.22
1996	.51*	.23
2000	-	-
2004	-.87*	.20
(Intercept)	-.34*	.34

Note $N = 5974$, likelihood ratio = 4293, $p < .001$. % correctly predicted = 87.0

* Indicates $p < .05$, two-tailed

Four important results arise from the model. First, the effects of economic evaluations on vote choice are not due to partisan motivated reasoning since the effects of the economic evaluations are not larger for the one third of voters whose beliefs about the election outcome are false than for the two-thirds of voters whose beliefs are accurate. Second, among voters whose beliefs are accurate or non-rationalizing, retrospective national evaluations outweigh all other forms of economic voting, followed by prospective national and prospective pocketbook. Third, to the extent that motivated reasoning does influence the link between the economy and vote choice, its effect appears greatest for retrospective pocketbook voting. Among voters with inaccurate beliefs about the election outcome, only retrospective pocketbook voting is associated with vote choice. Fourth, the effect of retrospective sociotropic evaluations is remarkably discrepant between voters who are accurate in their expectations and those who are not. Most studies of endogeneity in economic voting focus on retrospective sociotropic evaluations. Sociotropic retrospective evaluations show the greatest variation among all

Table 4 The Effects of Economic Evaluations on the Presidential Vote, Rationalizing Versus Non-rationalizing Voters, 1980–2004

Predictor	Coefficient	Clustered SE
Party Identification	1.90*	.08
Income	-.29*	.10
Age (2 SD units)	-.19	.07
Female	.04	.16
African-American	1.94*	.28
Southern	-.52*	.12
Incorrectly Believe Own Party Will Win	-.54*	.40
Retrospective National Evaluation	.78*	.11
Retrospective Pocketbook Evaluation	.21*	.03
Prospective National Evaluation	.34*	.07
Prospective Pocketbook Evaluation	.17	.10
Incorrect * Retro National Eval	-.88*	.11
Incorrect * Retro Pocketbook Eval	-.04	.12
Incorrect * Prosp National Eval	.01	.10
Incorrect * Prosp Pocketbook Eval	-.06	.18
1984	-.55*	.23
1988	-.77*	.22
1992	-1.05*	.24
1996	.53	.13
2000	-	-
2004	-.80*	.22
(Intercept)	-.27	.18

Note $N = 5621$, likelihood ratio = 4049, $p < .001$. % correctly predicted = 86.3

* Indicates $p < .05$, two-tailed

evaluations in their different effects between voters with accurate and inaccurate expectations about the election outcome. The voters who have inaccurate expectations—the ones for whom evaluations of the economy are most likely to be endogenous to vote choice—also show no effect of their evaluations on vote choice. The results imply that even if sociotropic retrospective evaluations may be endogenous on average, the voters for whom they are endogenous do not rely on them in the voting booth.

This is not to say that studies showing that retrospective evaluations of the national economy are endogenous are incorrect. Rather, retrospective evaluations of the national economy have little effect on the vote among the voters for whom these evaluations are most likely to be endogenous to vote choice. This finding opens the door to future research on the possibility that people discount their own endogenous evaluations or attitudes, possibly since they recognize that they are rationalizing.

Both sets of analyses disprove the hypothesis that inaccurate or unrealistic expectations drive voters to match their evaluations of the economy to their choice

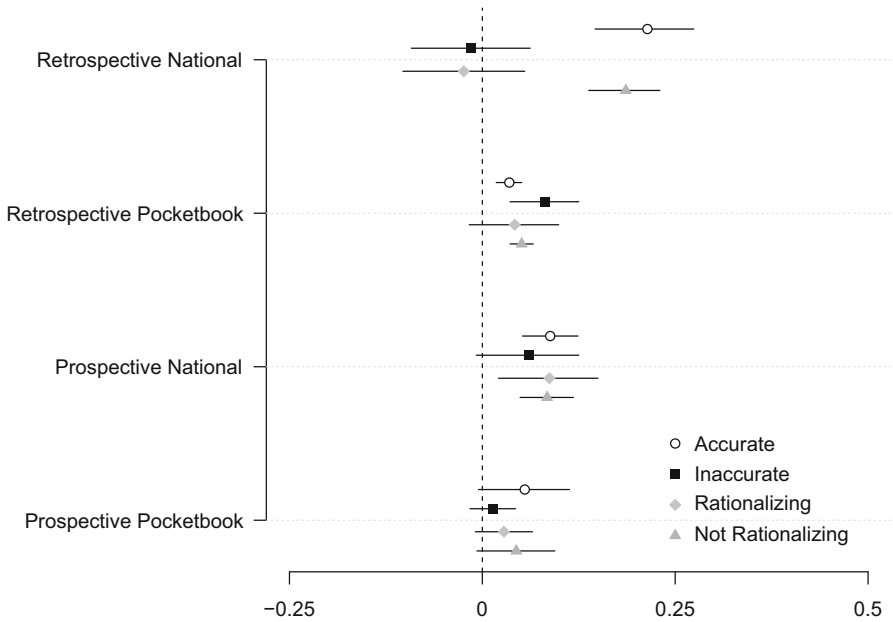


Fig. 4 Inaccurate expectations and rationalizing do not increase the effect of economic evaluations on vote choice Source: 1980–2004 American National Election Studies cumulative data file. The 2000 election is omitted since the popular vote and Electoral College produced different outcomes. *Dot* represents estimated change in probability due to one unit change in predictor. All non-binary predictors scaled to 2 standard deviation units. *Horizontal lines* are 95 % confidence intervals. *Party Identification, Information, Race, Age and Southern* included in model but omitted from graph to save space

of candidates. Rationalizing does not increase the effect of economic evaluations on the vote choice. If anything, rationalizing the past or future performance of the economy tends to suppress the effect of economic evaluations on vote choice. Both sets of analyses also show that retrospective and prospective evaluations of the national economy have a stronger effect on the vote than other economic evaluations.

Conclusions

This study contributes several new results to the voluminous but often contradictory literature on economic voting. The primary finding is that voter information moderates the effect of prospective economic evaluations on the vote but has no effect on retrospective evaluations. That is, variation among voters due to information or sophistication occurs primarily between prospective and retrospective evaluations, not between the sociotropic and pocketbook evaluations occupying recent studies (Gomez and Wilson 2001, 2006; Godbout and Belanger 2007a). The more informed voters vote prospectively under most expectations about the election outcome. However, voters of all information levels use retrospective sociotropic

evaluations equally in the voting booth, while retrospective pocketbook evaluations appear to be of little use to voters at any information level.

The moderating effect of information on prospective voting also reveals a more forward looking electorate than the balance of other studies suggests. Previous research on prospective and retrospective voting and presidential approval examines the average effects of each across all voters. We show that more informed voters vote prospectively, less informed voters do not. About 85 % of the electorate—those above the lowest two information categories—have the information necessary to vote prospectively since that is where prospective voting becomes significant in the graphs in Figs. 2 and 3. The informational threshold for prospective voting is not overly high. The results provide individual-level confirmation that the informed public behaves more like bankers than peasants by looking to the future rather than solely to the past (see Mackuen et al. 1992).

Prospective voting varies depending on whether voters believe the incumbent party will win the election. When voters believe the incumbent will win, nearly all voters weigh sociotropic evaluations in their voting decisions. When voters face uncertainty due to a likely change in the occupant of the White House, only the most informed voters vote prospectively, and pocketbook evaluations eclipse sociotropic evaluations for them.

Removing apparent partisan rationalizers from the analysis of economic voting is also a novel contribution to the field and suggests that endogeneity may not be as bad as it appears. The voters most likely to rationalize the economy are the ones who are also likely to engage in wishful thinking that their party's candidate will win the election. Excluding these voters generally strengthens the relationship between economic conditions and vote choice. The rationalizing voters show generally weaker effects of economic evaluations on vote choice. Even if some voters rationalize the economy, they may discount their own delusions when voting.

This study helps to unify the findings in previous research. We corroborate a finding from Weatherford (1983) of exclusive personal judgments among low sophisticates since we find pocketbook evaluations to be conditional on information and expectations about the winner of the election. The results confirm that retrospective voting does not depend on voter education or sophistication (Fiorina 1981), yet also confirms that more educated (or informed) voters turn their attention toward the future (Sniderman et al., 1990).¹⁹ Like Clarke and Stewart (1994), whose focus is presidential approval, we find that both prospective and retrospective sociotropic evaluations affect citizens' attitudes. In our analysis, prospective sociotropic evaluations weigh heavily when people believe the incumbent will continue in office, as they would when asked about approval of the current president.

The conditional effects of expectations about who will win an election on the types of economic evaluations that voters use is surprisingly underexplored in the literature, but the concept is consistent with a long line of studies that investigate

¹⁹ We also estimated models with a voter's education level and income in place of information. The results are substantively the same as for information, but the model with information outperforms the model with education or income based in Akaike's Information Criterion.

differences in political sophistication and information among voters. To the extent that the electorate is not merely reacting to the past, but making decisions based on their beliefs about the future, such predictions should be accounted for in our models. Doing so provides an understanding of the ways voters use different kinds of information to make their political decisions. The effects of economic evaluations on vote choice are jointly moderated by individuals' current levels of political information as well as their expectations about the future. Believing that the incumbent will win suggests that the voter has more, or at least a different kind of, information about the future, perhaps based on past experience with the administration. Uncertainty about the winner or believing that the challenger will win paint different futures according to which voters must organize their political beliefs. We arrive at a richer conception of political sophistication by taking into account both factual knowledge and the broader integration of the political belief system, in this case the updating of one's beliefs based on different predictions of the electoral future.

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