**Elections and Economics**

Economic voting, we are told, is an essential mechanism of democratic accountability, punishing incumbents whose policies produce bad outcomes and rewarding incumbents who reap good outcomes.[[1]](#footnote-1) Strong claims are made throughout the literature about the primacy of economics in elections. Almost without exception, election forecasting models include economic indicators; some include little else. Tufte, quite concisely, made it his “basic principle.”

Unfortunately, economic voting in theory has not always been borne out by practice. As Anderson notes, “empirical findings in recent years strongly suggest that the influence of the economy on government popularity and election outcomes is far from inevitable. Moreover, these findings reveal that such a link, when it exists, is typically contingent for both institutional and psychological reasons” (272).

In *Red State, Blue State, Rich State, Poor State,* Andrew Gelman squares two seemingly-paradoxical observations about American elections: rich people vote Republican, but rich states vote Democratic. Lower-income areas, he notes along with Thomas Frank, are often bastions of support for economic policies that benefit the rich. But rather than asking “what’s the matter” with the poor voters, Gelman argues that the answers lie in the differences between states and regions—and importantly, with how high-income voters behave in different contexts.

The objective of this paper is, first, to show that Gelman’s findings about the rich-state poor-state divide have held up in the 2010 midterm election. Second, I attempt to expand on this theory to show how the relative wealth of a state influences the sensitivity of that state to economic conditions. Lastly, I explore levels of aggregation, arguing that the egotropic--sociotropic dichotomy commonly discussed in the literature might better be thought of as a continuum.

1. **Data**

“Economic voting,” is defined here not only as the relationship between actual economic conditions and the vote, but as voters’ perceptions of economic conditions—past, present, and future—as well as their support for current economic policies. As such, economic and public opinion data are combined with actual election results. Data is drawn from a number of sources, including the Edison National Exit Poll, the Current Population Survey, and the Associated Press.

**2010 National Exit Pool Surveys**

Data on public opinion is taken from the 2010 exit poll. As of January 2010, Edison has not yet released a full dataset for the 2010 exit poll. Instead I use what is available: the online dynamic crosstabs. There are significant limitations to this data, most notably that individual-level observations are not available. Although filters can be applied to crosstabs as desired, it is not possible with the available data to create regressions at the individual level. In addition, although crosstabs produce a difference of means estimate, they do not provide any measure of significance.

**Methodology.** The exit polls used in this paper were conducted by Edison Research for the National Election Pool (ABC, AP, CBS, CNN, FOX, and NBC). The members of the NEP collectively prepared the questionnaire, and paid for rights to access the data (or parts thereof) on Election night.

Each exit poll selected polling places using a stratified probability sample. Within each polling place, the interviewer was instructed to approach every nth voter as s/he exited. The exact number of interviews completed depended on voter turnout and the cooperation of voters.

In addition to Election day interviews, absentee and early voters were reached through pre-election telephone polls using the same questionairre. These voters were selected using a random-digit-dialing telephone sample. Phone interviews from those respondents who said they were definitely voting in the General Election were combined with the Election Day polls in approximately the correct proportion.

**State Exit Polls.** Separate questionairres were created for each state—some with multiple forms. As a result, different questions were asked in each state, and respondents within each state were not necessarily asked each question. Appendix ??? charts in detail the availability of our variables of interests in each state exit poll.

**National Exit Polls.** The national exit poll was conducted separately from the state exit polls. The sample included 268 polling place (selected as a stratified probability sample of each state) and 16,531 election day voters. In addition, 1,601 absentee and early voters were interviewed in a national pre-election phone poll. Like the state exit polls, the polling place and telephone samples were combined in approximately the correct proportions.

Exit poll tabulations are weighted based on two factors: (1) the probability of selection of the precinct and the respondent within the precinct, and (2) by the size and distribution of the best estimate of the vote within geographic subregions of the nation (e.g. by state for state polls or by geographic region for the national polls). For our purposes, State exit polls are used when it is desirable to use a sample that is representative at the state level. State surveys can be combined in the online database (and automatically weighted according to the actual number of voters) to compare groups of states—e.g. rich states versus poor states. The National exit pool is used when a nationally-representative sample is desirable. Since not all state polls are currently available, the national poll has the advantage of including voters in each state proportionately.

**Current Population Survey**

The Current Population Survey is a joint effort of the Bureau of Labor Statistics and the Census Bureau. It is a monthly survey of about 50,000 households, and is the primary source of data on labor in the United States. Respondents within each randomly-selected household are and interviewed about the employment status of each member of the household 15 years old or older, as well as earnings, hours of work, previous work experience, health, and other indicators. Available demographic characteristics include age, sex, race, marital status, and educational attainment. Importantly, income is available, giving us reliable estimates of median income levels in each congressional district and state.

The latest available data from the CPS is from late 2009. Data from the 2010 Census, which would be preferable to older data, will be available within the next month. Variables involving a

1. **Methodology**

The major drawback of using 2010 exit poll data is that, lacking an actual dataset, it is necessary to employ more “creative” methods for determining therelationship between our variables.

**Difference of Means.** Cross-tabbing allows us to determine the difference between proportions (or means) of variables (e.g. percent voting Republican) for different kinds of voters, districts, states, or regions. However, the Edison interface that is available does not offer any measure of uncertainty. So how are we to determine whether a difference is significant? With some manipulation, we can use these frequencies to reverse-engineer a variance, t-statistic, and probability.

Because each row and column contains a different number of observations (and, therefore, unequal variances) we use the generalized Welch’s t-test to determine whether the difference of means is statistically significant.

Where is the sample means of sample, is the sample variance, and *N* is the sample size of each sample 1 and 2. The sample variance is also not given, so we compute it as:

If *X* is dichotomous, this summation can be “simplified” as:

In order to compute the probability associated with the t-statistic, we need to find the degrees of freedom, which can be approximated by the Welch-Satterthwaite equation:

We compute the t-statistic using the mean, variance and N of each sample, then compute the probability associated that that t-statistic using the degrees of freedom and a table (or calculator). A two-tailed test is used.

Importantly, where variables contain more than one category, the mean of each category is compared to the mean of the out-category. That is, each category is treated as a dummy variable. For an example of a t-test calculation, see Figure ??.

**Causal inference.** The second major methodological obstacle is the determination of causality. That is, economic evaluations are unlikely to be formed in a vacuum, but rather to be themselves a function of partisan preferences. One is more likely to believe messages from sources one already agrees with (c.f. Converse 1964). In fact, one is more likely to hear these messages in the first place. If partisanship affects both economic perceptions and vote choice, it is difficult to determine where the economy fits into the equation. Evans and Anderson’s (2006) study of economic voting in the 1992-97 British election cycle concludes that “conventional wisdom is likely to considerably overstate the importance of retrospective economic considerations for political preferences” (194).

This is a major concern, of course. One approach is to control for an individual’s, a district’s, or a state’s past vote by using a lagged variable. The variables of interest, then, are the *changes* in economic indicators, rather than absolute levels.

However, lacking the data necessary to produce a full regression, we can “control” for party by working with each set of partisans separately—i.e. looking only at independents. We concentrate not on the slopes themselves—but rather the difference in slopes. Similarly, when comparing proportions, we focus on the difference in means between groups rather than the absolute proportions themselves.

1. **State-level Analysis**

Following Gelman, Figure ?? shows the probability of voting for the Republican House Candidate by family income according to the 2010 Exit Polls (on the left) and Gelman’s analysis of 2004 presidential vote.[[2]](#footnote-2)

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| **Figure 1 :** Relationship between income and vote –three example states | |
| **Linear fit** | **Gelman** 2008 (18) Figure 2.7 |
| Figure 2_7 Linear replication.wmf |  |
| Alternative fit:  **Quadratic** | Alternative fit: **Connected** |
| Figure 2_7 Quadratic.wmf | Figure 2_7 Connected.wmf |

Within any state, Republican support is increasing with income. The varying slopes are consistent with Gelman’s findings that income has a stronger effect in poor states (like West Virginia and Mississippi) than rich states (like Connecticut).[[3]](#footnote-3) Ohio, a middle-income state, has a moderate slope that falls between the other two.

In the first graph, a linear fit is used to replicate Gelman’s Figure 2.7. But the relationship is not necessarily linear. (See Appendix ?? for alternative fits.) As we can see from the bottom two graphs, the difference in slope is most pronounced at the upper end of the income spectrum—between $50,000 and $75,000. Below that point, the slopes are similar; after that point they diverge more sharply.

As Gelman argues, there is nothing special about these three states. If we group states into the richest third, the middle third, and the poorest third, the pattern remains.

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| **Figure 2 :**  Relationship between income and vote –all states | |
|  | Linear Fit |
| RICH STATE POOR STATE.WMF | RICH STATE FITTED.WMF |

**Expanding to other races.** The practice of economic voting depends on a number of factors, including—as Anderson (2007) puts it-- “the voters themselves and the political context in which they make judgments” (271). This context (at least partly) determines the ease with which voters are able to translate information about the economy into a rational vote. Certain institutional features, for example, provide greater “clarity of responsibility”—allowing voters to attribute blame or credit to those policymakers most directly responsible for economic outcomes or individual policies (Goodhart 2010, 3). The United States, with its two-party system and powerful executive, might be considered in a comparative context to be relatively high-clarity. Yet, the federal structure of the government and the checks and balances within and between branches inevitably dilutes responsibility. How could a voter, rationally, blame her Governor for a national economic recession? Who should be rewarded if unemployment decreased in her district while remaining high elsewhere? The President? Her House member? Her Senator? Or perhaps the local government? It might be rational to expect that, when voting for a policymaker at the federal level (e.g. President, Senator, Representative), a voter might be more sensitive to national economic indicators; on the other hand, when voting for a race at the state or local level (e.g. Governor), a voter might be more sensitive to sub-national indicators. We might expect to see less economic voting for those offices that voters believe have less control over (and blame for) economic outcomes.

Indeed, in the analysis that follows, the Gubernatorial race often exhibits different patterns than Senate or House races. However, as far as state income and Republican vote goes, richer states consistently vote more Democratic.

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| **Figure 3 :** Relationship between a state’s Republican vote and median family income | |
| House | Senate |
| STATE HOUSE Income by pct Rep.wmf | STATE GOV Income by pct rep vote linear.wmf |
| Governor |  |
| STATE SEN Income by pct voted Rep Linear.wmf |  |

However, if we break out the rich, middle-income and lower-income voters in each race, we see a difference between the elections emerge. Voting in the House election (although data is lacking) has a very steep slope across the board. That is, rich and poor voters alike vote more Democratic in rich states than poor states. The Senate, too has slopes that a virtually indistinguishable between rich, middle-income and high-income voters..

In the Governors race, on the other hand, the middle-income voters seem to show the biggest difference in vote between poor and rich states.

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| **Figure 4** : Relationship between Republican Vote and Median Family income for Rich voters, Middle-income voters, and Poor voters | |
| House | Gelman’s (2008) Plate 3. |
| HOUSE vote by income and median family income.wmf |  |
| Senate |  |
| SENATE  by income and median family income.wmf |  |
| Governor |  |
| GOV vote by income and median family income.wmf |  |

1. **Individual-level voting**

In *The Macro Polity,* Erikson, MacKuen & Stimson argue both for collective rationality and for prospective economic voting. The “voter” is differentiated from the “electorate,” which according to EMS is nimble and rational, adjusting its preferences to expected “facts” about the future (xviii). EMS argue that “when citizens evaluate the president [or, presumably, other policymakers] based on economic performance, they respond as “bankers” rather than “peasants”—that is, citizens evaluate the president based on expectations of the future rather than simple extrapolations from the past” and that “citizens form expectations and evaluate the president as if using rational expectations, efficiently weighing past performance and available information about the economic future” (3).

Using questions from the 2010 exit poll, we can examine the effects and relative importance of Egotropic (pocketbook) vs. Sociotropic and Retrospective vs. Prospective evaluations of the economy. In line with Gelman’s analysis, we are most interested in how the sensitivity of voters to each type of evaluation differs by state median income levels.

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| **Figure 5 :** Variables of Interest | | |
|  | **Egotropic** | **Sociotropic** |
| **Retrospective** | FINSIT2 | NEC / NEC2 |
| **Prospective** | FORECLOSE/FORECLOSE2  HEALTHFAM | NECWORR/ NECWORR2 |

**Personal Financial Situation.** The variable FINSIT asks whether one’s family financial situation is better, worse, or about the same as it was two years ago. Such a measure represents an *egotropic, retrospective* evaluation of the economy.

Nationally, FINSIT is strongly associated with vote for House, Senate and (to a slightly lesser extent) Governor races. In regards to House races, for example, about 15% of voters said their financial situation was better; of these, 60% voted Democratic. Meanwhile, 43% said their financial situation was worse than it was 2 years ago; of these, only 35% voted Democratic. Those who said their financial situation was the same split about 50-50 Democratic and Republican.

Figure ?? shows the sensitivity of vote share to FINSIT for Poor, Middle, and Rich STATES. The House and Senate races are very similar. In poor states, voters are much more likely to vote Republican when they feel that their financial situation is worse than it was 2 years ago. For Rich voters, their perceptions make little difference. This is interesting, given that rich voters are more likely to say that the economy is the most important issue of the election. It contradicts the hypothesis that rich voters should be more sensitive to their perceptions of issues they care more about. The Middle class lies between the Poor and the Rich.

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| **Figure 5 :** Relationship between Vote and Financial Situation for Rich, Middle-Income, and Poor STATES | |
| House race | Senate |
| HOUSE FINSIT.wmf | SEN FINSIT CONN.wmf |
| Governor |  |
| GOV FINSIT CONN.wmf | In the Governors races, the poor states have the steepest slope, but the Middle-income states come in a close second. The sensitivity of the rich to FINSIT is almost identical to the previous two races. |

Notably, the differences between Poor, Middle-income and Rich states does not seem to be an result of very different proportions of voters perceiving their economic situation as good or bad. Although some of the differences in proportions are statistically distinguishable from 0, they are simply not substantively large enough to account for the difference in slopes.

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| **Figure 6 :** FINSIT histogram in Rich, Middle-Income and Poor states | |
| FINSIT by Median Family Income group | Example t-test  (All have 2715 degrees of freedom) |
| FINSIT histograph.wmf | |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | |  | **SAME** | | **BETTER** | | **WORSE** | | | | Compare Middle-Income to Poor States | | | | | | | | | t | 2.2337 | | 0.9614 | | 2.3534 | | | | Confidence | **97.44\*** | | 66.36 | | **98.13\*** | | | |  |  | |  | | | |  | | Compare Poor to Rich States | | | | | | | | | t | 1.5979 | | 1.0059 | | | 3.787 | | | Confidence | 88.98 | | 68.55 | | | **99.98\*\*** | | |  |  |  | |  | | | | | Compare Middle-Income to Rich States | | | | | | | | | t | 0.7728 | | 2.2262 | | | 1.7448 | | | Confidence | 56.03 | | **97.39\*** | | | 91.89 | | |  |  | |  | | |  | | |

**Concerns about Personal financial future.** The respondent’s hopes and fears about his/her family’s economic future is an *egotropic, prospective* conception of economic voting. Although there is no general question to this effect in the 2010 exit poll, there are a number of more specific questions that could fit the bill. For example, HEALTHFAM asks, *How will the new health care law affect you and your family?* FORECLOSE asks, *How worried are you that you or a relative will lose a home because of foreclosure?*  Although both questions would seem to affect lower-income voters more, in fact here is a significant percentage of each income group expressing concern. For example, foreclosure seems to be of some concern across the board.

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| **Figure 7 :** Foreclosure Crosstab | | | |
| Income Level of voters | Total | Worried | Not Worried |
| Less than $50 K | .43 | **.52** | **.47** |
| $50K - $100K | .37 | **.52** | **.47** |
| $100K or more | .20 | **.37** | **.62** |
| Total | 1.00 | **.49** | **.50** |

There is almost no difference in worries about foreclosure between the lower and middle income levels. Surprisingly, more than 1/3 of the richest voters are worried about foreclosure.[[4]](#footnote-4)

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| **Figure 7 :** Effect on SENATE vote | |
| FORECLOSE by income.wmf | All t-tests have 2964 degrees of freedom  **Within income groups:**   |  |  |  |  | | --- | --- | --- | --- | |  | < $50k | $50-100K | >$100K | | t | 2.4063 | 3.3596 | 2.2067 | | Conf | **98.38\*** | **99.92\*\*** | **97.25\*** | | **Between income groups:** | | | | |  | Diff Rich-Poor | Diff Poor-Middle | Diff Middle-Rich | | t | 10.749 | 7.933 | 4.0351 | | Conf | **100\*** | **99.8\*\*** | **99.99\*\*** | |

As Erikson, MacKuen and Stimson (2002) argue, “although the electorate is simply the sum of voters, our knowledge of the individual voter turns out not to be a reliable guide for generalizing to the electorate and its role in democratic politics” (3).

**State of the Economy.** *Do you think the condition of the nation's economy is: Excellent, Good, Not Good, or Poor?* The variable NEC is a *sociotropic, retrospective* measure of the economy.

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| **Figure 8 :** NEC Crosstab | | | |
| Income Level of voters | Total | Poor/Not good | Good |
| Less than $50 K | .36 | **.54** | **.43** |
| $50K - $100K | .37 | **.44** | **.53** |
| $100K or more | .27 | **.40** | **.58** |
| Total | 1.00 | **.46** | **.51** |

The higher a voter’s income, the less likely he is to be worried about the current economy. We might expect, therefore, that

Unsurprisingly, less than 1% of respondents answered “Excellent.”

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| Figure 9 : Relationship between NEC and Vote for Poor, Middle-income and Rich states [[5]](#footnote-5) | |
| House | |
| NEC by income.wmf | HOUSE NEC HIST.wmf |
| Senate |  |
| SEN NEC.wmf | HOUSE NEC HIST.wmf |
| Governor |  |
| GOV NEC.wmf | GOV NEC HIST.wmf |

State of the Future Economy. Regardless of (or in addition to) how healthy voters perceive the economy to be today, their optimism or pessimism about the economy might have an effect on their voting decision. The variable NECWORR asks respondents, *How worried are you about the direction of the nation’s economy in the next year?*  This prospective, sociotropic evaluation is central, for example, to Erikson, McKuen and Stimson’s (2002) conception of economic voting.

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| Figure 10 : Relationship between NECWORR and Vote for Poor, Middle-income, and Rich states [[6]](#footnote-6) | |
| House | |
| HOUSE NECWORR.wmf | HOUSE_NECWORR_HIST.wmf |
| Senate |  |
| SEN NECWORR.wmf | GOV NECWORR HIST.wmf |
| Governor  GOV NEC WORR.wmf | GOV NECWORR HIST.wmf |

**Race and Income.** According to Andrew Gelman, “Part of the story is race. In poor southern states such as Mississippi, the rich-poor divide coincides with a racial divide, which, given the differences between the two parties on racial issues, will lead to a bigger difference between the voting patterns of rich and poor. Beyond this, race is tied into economic issues and policies: given the high correlation of income and race, redistribution often looks like a racial policy” (Gelman 22).

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| **Figure 11 :** Race by income overall | |
| HOUSE VOTE by INCOME by RACE.wmf | SENATE VOTE by INCOME by RACE.wmf |
|  |  |
| GOV VOTE by INCOME by RACE.wmf |  |

**Party.** When broken down by party, Democrats and Republicans exhibit little sensitivity to economic variables (e.g. FINSIT -- Family’s Financial Situation). In the top graph of Figure 12, we see that the Dems and Reps’ votes are relatively uniform across the categories of FINSIT (and across races). It’s the independents who seem to be producing variation.

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| **Figure 12 :** Breakdown by party--Finsit | |
| Percent of each category voting Democratic  **VOTE DEM by RACE by PARTY.wmf** | |
| House – Democrats Only  FINSIT2 by INCOME DEMS only.wmf  House – Republicans Only  **FINSIT2 by INCOME REPS only.wmf** | House – Independents Only  **FINSIT2 by INCOME INDS only.wmf**  Across all the parties, those who said their financial situation was Better voted overwhelmingly for the Democrat—although they become steadily more Republican as income increases. Interestingly, a higher income is associated with a more Democratic |

vote for the “Worse” categories—again defying our expectations.

1. **CD-Level Analysis**

Figure 13 shows the percent of each congressional district that voted Republican in the 2010 House election vs. CD Median Household Income. When all districts are plotted together, there is no significant relationship between the CD median household income and vote. However, when broken down into poor, middle and rich states, there is a positive relationship—largest in poor states and smallest in rich states.

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| **Figure 13 :** Relationship between Congressional District Median Household Income and Vote | |
| All CDs  CD Median Household Income vs Pct Voted Rep.wmf | Middle States |
| CD MED INCOME 2.wmf |
| Poor States | Rich States |
| CD MED INCOME 1.wmf | CD MED INCOME 3.wmf |

1. **Regional Analysis**

How does the relationship between income and vote vary by region? Figure 14 breaks down the Congressional districts by size of place (left) and region (right). Interestingly, there is a strong positive relationship between CD median household income and vote in Urban and Urban-Suburban areas, but a negative relationship in the Suburbs. In the Ex-urbs and rural areas, there is almost no relationship.

Regionally, there is a positive correlation between CD median household income and vote in the South and Midwest, but almost nothing in the West and Northeast. In the poorest congressional districts, there is almost no difference between regions. The richest congressional districts in the South and Midwest, however, are significantly more Republican.

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| **Figure 14:** Relationship between CD median Household income and Vote | |
| Urban-Suburburban | Regional |
| CD MED Income by geo class.wmf | CD MED Income by region NO SCATTER LINEAR.wmf |

In *Red State Blue State*’s analysis of the 2006 midterm election, Gelman finds that the effect of income on vote was stronger in the South and Midwest than in the West and Northeast. Figure 15 replicates this graph using the 2010 exit poll. The effect is similar for both the House and Senate races. When looking at the governor’s races, however, the South seems to have the same slope as the West and Northeast, leaving the Midwest the outlier.

Using the 6-category income variable (INCOME10) produces a choppier trendline than Gelman’s, but the trend is remarkably similar.

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| **Figure 15 :** Regional relationship between income and vote | |
| In figure 4.8 of his *Red State Blue State* (right), Gelman finds that in the 2006 congressional elections, “the lines for the South and Midwest have steeper slopes, which tells us that income was associated with Republican vote more strongly in these regions than in the Northeast and West” (54). |  |
| **House Races.** The relationship between region and income is stronger in the South and Midwest than the West and Northeast. The overall plot is strikingly similar to 2006. Interestingly, the slope of each region is similar up to the $75,000-$100,000 income group. In the South and Midwest, there continues to be a strong positive relationship between income and vote above $100,000. In the West and Northeast, however, the slope levels off.  Although a linear-fit line increases as income increases, it seems that the relationship is not entirely linear. Gelman’s   |  |  | | --- | --- | | **Figure 16:** House Vote by Region and Income | | | **House vote by region and income.wmf** | **HOUSE vote by region and income fitted.wmf** | | |
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|  |  |
| **Senate Races.** In the linear fit plot, the South and Midwest have a steeper slope than the West and Northeast. That is, a higher income is associated with a higher probability of voting Republican.  In the West, in contrast, middle-income people (families making between $75,000 and $100,000) are the most likely to vote Republican, with both upper- and lower- income people more likely to vote Democratic. The relationship between income and vote among lower- and middle-income families is similar in the Midwest, South, and East. It’s in the upper end of income that voters’ behavior differs.  The probability of voting Republican in the Northeast, meanwhile, generally increases as income increases—but with a shallower slope than the Midwest and South.   |  |  | | --- | --- | | **Figure 17:** Senate Vote by Region and Income | | | **senate vote by region and income.wmf** | **Senate vote by region and income fitted.wmf** | | |
|  |  |
| **Gubernatorial Races.** The difference between regions is less dramatic in the race for Governor than for Senate or House. The slopes of the South, West, and Northeast are similar, and the midwest is slightly steeper. However, the biggest effect is between lower-income and middle-income families (making less than $100,000). The slope between middle- and high income is nearly flat.   |  |  | | --- | --- | | **Figure 18:** Gubernatorial Vote by Region and Income | | | Governor vote by region and income.wmf | GOV vote by region and income fitted.wmf | | |
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**Over Time.** Gelman (2008, 54) shows the estimated difference in Republican House vote share between rich and poor voters as a time series (1952-2006). Almost invariably, the lines are above 0, since Republicans candidates generally receive greater support from the rich than the poor. Figure 19 completes his time series up to 2010, using data from the 2008 and 2010 exit polls. The difference has not changed much since the 2006 election—it is highest in the Southern states, but seems to be holding steady.

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| **Figure 19 :** U.S. House: Republican vote among rich voters minus Republican vote among poor voters (UPDATED) |
| **time series graph copy.gif** |

1. **Sociotropic, Egotropic, and eveything in between**

Early studies of economic voting looked at the relationship between aggregate economic indicators (such as growth of GDP) and election returns over time (c.f. Kramer 1971; Tufte 1975). In the aggregate, an economic upturn seems to help congressional candidates of the incumbent party, while economic decline benefits the opposition. Unfortunately, as Kuklinski and West (1981) note, “Contrary to the findings of aggregate studies, investigations based on individual-level data have uncovered only scant evidence that voters’ assessments of their personal economic situations influence their choices of congressional candidates” (436). Midterm elections, in particular, seem not to be a response to economic performance. Kinder and Kiewiet (1979) conclude that “private economic experience is important, but not for politics. Economic discontents and political judgments inhabit separate domains” (523). Faced with this puzzle, scholars took to a “sociotropic” hypothesis, whereby voters actually behave altruistically, responding to economic events only insofar as they affect the generally welfare (cf. Kinder and Kiewiet (1979).

Meanwhile, empirical studies have relied on past economic conditions—inflation, unemployment, change in income, etc.—while insisting that economic voting is actually a “forecasting” process. Without a reliable, objective way to measure voters’ expectations about the future, we are forced to make the assumption, as Kramer (1971) does that “expectations about year *t* are formed on the basis of experience during the previous year, *t*-1” (134).

Mutz & Mondak (1997) argue for group-level economic perceptions. They hypothesize that “people hold group-level economic perceptions that are independent from family-level and national-level appraisals, and that these group-level perceptions influence political judgments” (284). They find that voters use “sociotropic fairness”—that is, if they feel that class groups have enjoyed similar rather than dissimilar changes in economic performance.

The group hypothesis sits the fence between pure egotropic and pure sociotropic voting, in that their perceptions are relative rather than absolute. However, I would argue that a group hypothesis also influences how voters translate current knowledge into rational expectations. Voter’s concern about foreclosure, for example, is not based on their own experience alone, but rather is made salient by their neighbors experiences with foreclosure. A bad economy that has not yet affected an individual threatens to in the future—especially if he has seen many people around him lose their jobs, their savings, or their houses.

For example, although foreclosure actually affects very few people, relatively speaking, it has a correlation to vote, as well as other measures of perception about the economy.

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| Figure 20: CD foreclosure rate and Vote |
| CD Foreclosure rate.wmf |

Thus, a complete analysis of economic voting would incorporate measures from multiple levels of analysis. The analysis conducted in this paper shows clearly that economic perceptions affect vote choice at the individual, district, state, and national level. When more complete data is available, it would be fruitful to, for example, build a multilevel model incorporating various measurement to determine their relative importance.

**Appendix 1 : Variable Measurement**

The following measures are taken from the 2010 Edison-Mitofsky Exit Poll—either individual state polls or the national U.S. poll. Not all variables are available for all states. A table of variables can be found on page ??.

Perceptions: Egotropic

(Retrospective)

**FINSIT2:** Compared to two years ago, is your family's financial situation:

1. Better
2. Worse
3. Same

(Prospective)

**FORECLOSE2 :** How worried are you that you or a relative will lose a home because of foreclosure?

1. Worried
2. Not Worried

**HEALTHFAM:** How will the new health care law affect you and your family?

1. Better Off
2. Worse Off
3. No Difference

Perceptions: Sociotropic

(Retrospective)

**NEC2:** Do you think the condition of the nation's economy is:

1. Excellent or Good
2. Not Good or Poor

(Prospective)

NECWORR2: How worried are you about the direction of the nation's economy in the next year?

1. Not Worried
2. Worried

Salience

**ISSUE ECON:** Which ONE of these four issues is the most important facing the country? (CHECK ONLY ONE)

1. Economy
2. Other
3. **Appendix 2 : Variable Availability**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | AL | AK | AZ | AR | CA | CO | CT | DE | FL | GA | HI | ID | IL | IN | IA | KS | KY | LA | ME | MD | MA | MI | MN |
| 10HOU | X |  | X |  | X | X | X | X | X |  | X |  | X | X | X | X |  | X | X |  |  |  |  |
| 10SEN | X |  | X |  | X | X | X | X | X |  | X |  | X | X | X | X |  | X | X |  |  |  |  |
| 10GOV | X |  | X |  | X | X | X | X | X |  | X |  | X | X | X | X |  | X | X |  |  |  |  |
| CDNUM |  |  | X |  | X | X | X | X | X |  | X |  | X | X | X | X |  | X | X |  |  |  |  |
| FINSIT2 | X |  | X |  | X | X |  | X | X |  |  |  | X | X | X | X |  |  | X |  |  |  |  |
| FORECLOSE |  |  | X |  |  |  |  |  | X |  |  |  | X |  |  |  |  |  |  |  |  |  |  |
| FORECLOSE2 |  |  | X |  |  |  |  |  | X |  |  |  | X |  |  |  |  |  |  |  |  |  |  |
| HEALTHFAM |  |  | X |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  |
| INC100K | X |  | X |  | X | X | X | X | X |  | X |  | X | X | X | X |  | X |  |  |  |  |  |
| INC30K | X |  | X |  | X | X | X | X | X |  | X |  | X | X | X | X |  | X |  |  |  |  |  |
| INCOME10 | X |  | X |  | X | X | X | X | X |  | X |  | X | X | X | X |  | X |  |  |  |  |  |
| INCOME3 | X |  | X |  | X | X | X | X | X |  | X |  | X | X | X | X |  | X |  |  |  |  |  |
| ISSUEECON | X |  | X |  | X | X |  | X | X |  | X |  | X | X | X | X |  | X |  |  |  |  |  |
| NEC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| NEC2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| NECWORRY | X |  | X |  |  | X | X | X | X |  | X |  | X | X | X | X |  | X |  |  |  |  |  |
| NECWORR2 | X |  | X |  |  | X | X | X | X |  | X |  | X | X | X | X |  | X |  |  |  |  |  |
| STIMULUS | X |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  |  |  |
| VOTE2008 | X |  | X |  | X | X | X | X | X |  | X |  | X | X | X | X |  | X |  |  |  |  |  |
| WORK |  |  | X |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | MO | MS | MT | NE | NV | NH | NJ | NM | NY | NC | ND | OH | OK | OR | PA | RI | SC | SD | TN | TX | UT | VA | VT | WA | WI | WV | WY | US |
| 10HOU | X |  |  |  | X | X |  |  |  | X |  | X |  | X | X |  | X |  |  | X |  |  | X | X | X | X |  | X |
| 10SEN | X |  |  |  | X | X |  |  |  | X |  | X |  | X | X |  | X |  |  |  |  |  | X | X | X | X |  | X |
| 10GOV | X |  |  |  | X | X |  |  |  | X |  | X |  | X | X |  | X |  |  | X |  |  | X | X | X | X |  | X |
| CDNUM | X |  |  |  | X | X |  |  |  | X |  | X |  | X | X |  | X |  |  | X |  |  | X | X | X | X |  | X |
| FINSIT2 | X |  |  |  | X | X |  |  |  |  |  | X |  | X | X |  | X |  |  | X |  |  | X | X |  | X |  | X |
| FORECLOSE |  |  |  |  | X |  |  |  |  |  |  | X |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |
| FORECLOSE2 |  |  |  |  | X |  |  |  |  |  |  | X |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |
| HEALTHFAM | X |  |  |  |  |  |  |  |  |  |  | X |  |  | X |  |  |  |  |  |  |  |  |  |  |  |  |  |
| INC100K | X |  |  |  | X | X |  |  |  | X |  | X |  | X | X |  | X |  |  | X |  |  | X | X | X | X |  | X |
| INC30K | X |  |  |  | X | X |  |  |  | X |  | X |  | X | X |  | X |  |  | X |  |  | X | X | X | X |  | X |
| INCOME10 | X |  |  |  | X | X |  |  |  | X |  | X |  | X | X |  | X |  |  | X |  |  | X | X | X | X |  | X |
| INCOME3 | X |  |  |  | X | X |  |  |  | X |  | X |  | X | X |  | X |  |  | X |  |  | X | X | X | X |  | X |
| ISSUEECON | X |  |  |  | X | X |  |  |  | X |  | X |  | X | X |  | X |  |  | X |  |  |  | X | X | X |  | X |
| NEC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X |
| NEC2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X |
| NECWORRY | X |  |  |  | X | X |  |  |  | X |  | X |  | X | X |  | X |  |  | X |  |  | X | X | X | X |  | X |
| NECWORR2 | X |  |  |  | X | X |  |  |  | X |  | X |  | X | X |  | X |  |  | X |  |  | X | X | X | X |  | X |
| STIMULUS | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  | X |  |  |  |  |  |  |  | X |
| VOTE2008 | X |  |  |  | X | X |  |  |  | X |  | X |  | X | X |  | X |  |  | X |  |  | X | X | X | X |  | X |
| WORK |  |  |  |  |  | X |  |  |  |  |  | X |  |  | X |  | X |  |  |  |  |  |  |  |  | X |  |  |

1. **Appendix 3 :** Comparison of Median Family Income and Median Individual Income

How one measures income level appears to have no effect—the two measures are so highly correlated as to be nearly indistinguishable. See, for example, the relationships between median household income and median individual income.

|  |  |
| --- | --- |
| **Figure 20 :** Comparison of income coding |  |
| **STATE HOUSE Income by pct Rep.wmf** | **Median individual income by vote.gif** |

Whether aggregated by CD or state, the correlation between the two measures is very high. For example, by state:

|  |  |
| --- | --- |
| **Figure 21 :** Comparison of income coding: correlation | |
| **Income measures.wmf** |

1. See, for example, Anderson (2007), Goodhart (2010), Key (1966), Mueller (1970), Kramer (1971), Tufte (1975), Downs (1957), Lewis-Beck & Stegmaier (2000). [↑](#footnote-ref-1)
2. Median family income is easily available in both census data and the exit polls. It is highly correlated with individual income on both the Congressional District and state level. See Appendix ?? for further discussion. [↑](#footnote-ref-2)
3. I use West Virginia because Mississippi isn’t one of the states for which I have exit poll data. West Virginia has the second-lowest family income in the United States—just behind MS. The median family income of West Virginia is $47,951, while Mississippi’s is $46,413. [↑](#footnote-ref-3)
4. Unfortunately, too few states were asked this question to compare across low- middle- and upper-income states. [↑](#footnote-ref-4)
5. See Appendix ?? for t-test of differences between Rich, Middle-income and Poor states. [↑](#footnote-ref-5)
6. See Appendix ?? for t-test of differences between Rich, Middle-income and Poor states. [↑](#footnote-ref-6)