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Jonathan Silberman 4/12/2013

Retrospective Voting in the 2012 Election

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Abstract

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This paper tests whether the 2012 election followed a traditional retrospective voting model. It starts by outlining an alternative theory, long-term retrospective voting, as an explanation for the 2012 election. Long-term retrospective voting in contrast to traditional retrospective voting holds that economic conditions in 2012 should not be correlated with voter choice because voters were split as to whether to blame the incumbent or predecessor for the failures of the economy. This theory was first tested at the county level by running an OLS regression comparing the changes in Obama's vote share from 2008 to 2012 to the changes in unemployment during his first term in office. The next test was an individual level test using a CNN poll to determine the relationship between subjective views of the economy and voting. Both tests showed that despite unusual conditions, the 2012 election followed a tradition retrospective voting model.

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Introduction

After Mitt Romney sealed the Republican nomination in early 2012, the only question in the world of politics was who would win the election. At the time, it seemed that the only thing that would matter was the economy. In March, the New York Times published an article entitled "Muddled Economic Picture Muddles the Political One, Too" in which they quoted a political scientist as saying, "If you could know one thing and you had to predict which party was going to win the next presidential election, you couldn't do better than knowing the change in economic growth" (Leonhardt 2012). The author goes on to say, "Historically, nothing — not campaign advertisements, social issues or even wars — has influenced voters more heavily than the direction of the economy in an election year" (Leonhardt 2012).

In his acceptance speech at the Democratic Convention, President Obama laid out five goals that he wanted to accomplish; four of them were directly related to the economy (Dicker 2012). His overall speech was an argument for his policies as the best policies for the future of the economy and the country. While he acknowledged the recovery from the recent recession was slow, he pointed out that the recession had started under a Republican administration (Johnson 2012). Obama's acceptance speech exemplified the overarching message for the Democrats in the election: the economy is not great, but improving and the Republicans are the ones who put us here in the first place.

Likewise, Mitt Romney focused on the economy in his acceptance speech at the Republican convention saying that "What America needs is jobs, lots of jobs" (Cohen 2012). Romney went on to explain a variety of economic policies he supported and would enact if elected president (Cohen 2012). The GOP's message during the campaign was that the Obama

presidency was an economic failure and Republican policies would deliver prosperity. While the campaigns did not agree on much, they both agreed the economy would decide the election.

In the end, Obama won the 2012 presidential election winning all but one swing state and over 300 electoral votes. He won with over 51% of the vote and despite an unemployment rate hovering around 8%, a smaller workforce than when he took office, and tepid economic growth ("United States Unemployed…" 2013; "United States GDP…" 2013).

The 2012 election raises the question: what did voters consider in making their decisions? Was the economy the decisive factor? And if so, how did voters weigh the economy in making their choice?

Retrospective voting is an established theory in political science, and one of its key tenets is that voters blame incumbents for problem such as a bad economy (Fiorina 1978, 429-430). However, I believe that in 2012 voters factored in the performance of not just the most recent incumbent but also his predecessor in assigning blame, and, because both parties were blamed for the economy, economic factors were not predictive of voting. I believe unemployment, inflation, and economic growth at the national level were not indicators of Obama's vote share; poor local economic performance was not correlated with a decrease in Obama's vote share; subjective views of how the economy performed under Obama did not determine how a person voted. My theory is that the performance of the economy did not lead to an anti-incumbent vote because they were considering the government's economic performance for a period longer than four years; I am calling my theory long-term retrospective voting.

In 2008, Republicans had had control of the White House for eight years, so when the recession started, the GOP was blamed by the electorate and were voted out. Obama and the Democrats took over in 2009 when the economy was doing poorly but initially could not be

blamed for the situation. As his term progressed, Obama was seen as more and more responsible for the economy. It is important to note that the recession that started in 2007, "The Great Recession", was not a minor blip but an economic catastrophe in which unemployment nearly doubled and GDP growth dropped to -7.8% ("US Unemployed…" 2012, "US GDP…" 2012). When he left office, President George W. Bush had an approval rating of 20% which was the lowest approval rating since the Gallup Poll had begun (CBSNews 2012).

Even after four years, no one had forgotten who George W. Bush was, and the economy had still not recovered from the recession. If voting is seen as blaming one guy and choosing the other, then voters faced a predicament of who to blame: was the economy the fault of the people who were in power when the recession started or was it the fault of the people who were in power most recently and failed to fix it?

I believe that in 2012 voters weighed not only Obama's economic performance, but also the economy's performance under the previous Republican administrations, assigned blame for economic failure, and awarded credit for successes. I believe this theory will be visible in two ways in 2012; first, as I have previously stated, short-term economic conditions are not correlated with voter choice. My reasoning is that people who blamed Bush for getting the economy into this mess in 2008 and people who blamed Obama for not getting the economy out of this mess from canceled out; there was not enough agreement as to who to blame for economic conditions to be predictive of voting. Second, voting is a rational choice between parties, so voters had a reason for choosing one candidate over the other. Since the 2012 election was an election about the economy, I believe it has to be the economy that voters used in making their choice. The metric they used in this case was who would be better for the future,

prospective voting. Unlike economic conditions, I believe who voters thought would be better for the future will be correlated with voter choice.

This theory of long-term retrospective voting is an important addition to the existing literature on retrospective voting because it adds a scenario where short-term economic factors would not be important. When the economic outlook is not seen as solely the effect of the incumbent's policies, the blame placed on the incumbent and his predecessor may cancel each other, and economic factors, unemployment, economic growth, etc., during the immediately preceding time period may not be predictors of the election. Furthermore, I am testing my theory and retrospective voting theory generally in a different way than most previous scholars. Many studies have been done looking at the economy and voting over an extended period of time or looking at years where retrospective voting should occur based on theory, but I am examining an election where I have reason to doubt retrospective voting occurred. I am unaware of previous tests of retrospective voting using this sort of research design (see Kramer 1971; Kiewiet and Udell 1998; and Lewis-Beck and Naddeau 2009 for examples of previous studies).

This thesis has four parts. Chapter one will begin by examining the existing literature on retrospective voting. Looking at prominent papers by Key (1966), Kramer (1971), Stigler (1973), Fair (1978), and especially Fiorina (1978 and 1981), it examines the theoretical justifications for retrospective voting and then discusses empirical work to support the theory.

In chapter two, I will run a county level test of my theory; I am running the test at the county level because it is the best place to see the effect of the economy on individuals and communities. Controlling for relevant factors, I will run a regression between the change in unemployment during Obama's presidency and the change in Obama's vote share from 2008 to 2012 and expect that there will be no correlation between the two.

In Chapter 3, I will test my theory at the individual level using CNN's last poll before the election. I will examine the relative strength of how people viewed the economy and which candidate they thought would be better for the economy. I believe views of the current state of the economy will be unimportant, but which candidate respondents believe will be better for the economy will be correlated.

Chapter four is the conclusion where I discuss my findings, theory, and the importance of my work. I will present the results for both tests along with their relation to long-term retrospective voting in the 2012 election.

Chapter 1: Retrospective Voting Theory

While Morris Fiorina was not the first scholar to theorize a relationship between the economy and voting, he is the one who coined the phrase retrospective voting and created one of the best models to explain why the economy is important in voter choice. Although he does not use the term, his theory starts from a basic assumption of bounded rationality; people try to make the best choices possible given human constraints such as limited information and time (Fiorina 1981, 44-46). Voting reflects a conscience choice by voters between alternatives based on who they want to be in power.

But on what grounds do voters choose who they want to lead? Voters cannot know what candidates will do in the future, and, while they are aware of campaign promises, campaign promises are not necessarily going to be enacted. Each party has its own experts and policies that they argue are the smartest and best, so how can voters decide who is right (Fiorina 1981, 6)?

Voters are aware of their own lives and the effects policies have had on them. Voters may not know the Federal Reserve's discount rate, the effect of quantitative easing, or ten year growth forecasts but they do their own financial status. Voters do not need know the precise foreign policy or strategic objectives in order to know whether their family or friends are fighting in a war. Fiorina argues that the same can be said of pollution, crime rates, and a dozen of other policies. Voters have information about their everyday lives readily available (Fiorina 1981, 5).

So voters choose candidates based on what is going on in their immediate proximity. Voters may try to make prospective judgment about which candidate will be better for the future, but because those judgments are extremely difficult to make accurately, voters primarily base their voting decision on the present and past not the future. If they are doing well and are

satisfied with their environment, then they vote to keep the incumbent; if they are unsatisfied, then they vote for a new party (Fiorina 1981, 6).

In this model, there is a clear distinction between voting retrospectively and prospectively. Retrospective voters care more about outcomes whereas prospective voters care more about policies. Therefore, prospective voting demands a greater sophistication and time investment from the electorate and is not commonly used. Retrospective voting only demands that a voter be aware of what is going on around them which is why it is used enough to be capable of explaining election outcomes (Fiorina 1981, 6-8).

Chief among retrospective concerns is the economy (Fiorina 1981, 107). Fiorina tests his theory by creating an election model that includes only two factors: subjective economic evaluations and presidential approval. These two factors are chosen because the economy is the most important issue in an election, and if a voter is unhappy with the overall performance of the government, they will disprove of the president. This model with just the two variables explains 75% of the variation in Congressional elections from 1958 to 1976 (Fiorina 1981, 175).

However, my theory takes issue with two important parts of retrospective voting theory. The theory assumes voters are only concerned about the recent past and only consider the performance of the incumbent party. It does not allow for voters to be upset enough with a party to continue to vote against it for more than one election and vote against that party even if they are unsatisfied with the party currently in power.

The exit polling from 2012 paints a picture of an electorate still upset with the previous party to hold power and upset with the current situation; 53% of voters blamed former President Bush for the economy's problems (Irwin 2012). Seventy-seven percent of people believed the economy was either bad or very bad (Washington Post 2012). Fiorina says voters make a

determination as to whether the incumbent party had done a satisfactory job, and vote based on that determination (Fiorina 1981, 9-11). So reconciling the exit polling with Fiorina's model means a large portion of people thought the economy was bad but the incumbent was doing a good job. How could a person believe this if they did not consider the performance of the previous administration when making their choice? It seems more likely explanation that in 2012 voters were long-term economically retrospective considering economic conditions that predated the incumbent.

Also, Fiorina chooses the 1958-1976 Congressional elections for their proximity; they were the most recent elections when he was publishing. These elections are not chosen because they provide a good test case for an economic retrospective voting theory, and his model might have less explanatory power if it was used to examine other elections.

As mentioned Fiorina was not the first to argue there was a relationship between the economy and voting and built his theory off previous work. The three most important predecessors to Fiorina are Key (1966), Kramer (1971), and Fair (1978). All three attempt to describe voting behavior by arguing that voters are rational individuals; they vote for whichever candidate they believe will best represent their views and do the best job. This is now a well-established and uncontroversial view in voting, but at the time, and especially when Key published, this was a departure from conventional thinking which saw voters as manageable fools won-over by election propaganda (Key 1966, 7; Kramer 1971, 131; Fair 1978, 160-161).

The other important part of Kramer and Fair's work is that they theorized and tested whether there was a relationship between the economy and voting (Key was not concerned about short-term economic factors and was just trying to prove a rational-actor theory). Kramer, looking at elections in the House of Representatives from 1896 to 1964, and Fair, looking at

presidential elections between 1892 and 1976, find that short-term economic conditions affect election outcomes; they both agree that income and GDP growth are important in voting although Fair finds unemployment to be significant whereas Kramer finds it to be insignificant. The effect is that as the economy improves, the incumbent party increases their vote share, and when the economy deteriorates, the incumbent party loses votes (Kramer 1971, 140-141; Fair 1978, 171-172). Furthermore, the economic indicators that Fair and Kramer examine are both short-term, leading Fair (1978) to write, "Voters do not consider the past performance of the non-incumbent party and with respect to the incumbent party consider only the events within the year of the election" (171).

Kramer and Key examine trends in elections stretching 80 years, and in general there is a correlation between the economy and voting; as the economy goes up, the incumbent's vote share goes up and vice versa. But the 2012 election was a rare case where the economy's performance was not pinned squarely on the shoulders of the incumbent and the economy was struggling for a while; so I question that their analysis would hold.

Another model of voting was formulated in the 1970's as a direct response to Kramer's work. Stigler (1973) agrees that voters are rational but believes rationality means basing decisions on knowledge and experiences accumulated over a long period of time not just the previous year. In his model, voters are utility-maximizing actors and their vote reflects decisions as to which candidate would be best in the future based on past experience (161-162).

His model, unlike Kramer, Fiorina, and Fair, considers not only the performance of the incumbent party and the economy in the recent past but allows for voters to consider a wider range of factors. Whereas a model that only includes the incumbent party fails to explain how an

incumbent president won when 77% of voters thought the economy was poor or very poor, Stigler's model provides an answer: they thought the predecessor was worse.

Although Stigler provides an interesting model and one with relevance to 2012, his model has been largely disproven because it makes the claim that there is no relationship between economic conditions and voting, and empirical work has overwhelmingly shown there is a relationship. Even though Stigler's model has been proven inaccurate, I believe some of its predictions are relevant to the 2012 election.

Since Stigler and Fiorina first published, there has been a large amount of empirical work looking at the effect of the economy on presidential and Congressional elections, and the work has consistently found the economy affects voting and election outcomes. Markus (1988), Healy (2009), and Naddeau and Lewis-Beck (2001) found that a good economy helped the incumbent party in presidential elections while a bad economy hurt the incumbent party. Kinder and Kiewiet (1979), Kiewiet and Udell (1998), and Grier and McGarrity (2002) find the same effect for Congressional elections (incumbent party in this case is defined as the party that controls the White House not necessarily the party that controls Congress). All of these papers agree that the economy is important and agree on how it affects elections, but they employ different assumptions, different variables for the economy, and disagree on which variable is most important.

For the presidential studies, Markus uses change in real disposable income (Markus 1988, 151-152), Healy uses local unemployment (Healy 2009, 4), and Naddeau and Lewis-Beck use subjective views of the economy (Naddeau and Lewis-Beck 2001, 163-165). For the Congressional studies, Kinder and Kiewiet use subjective views of the economy[1] (Kinder and Kiewiet 1979, 498), Kiewiet and Udell use change in real income and unemployment nationally

[1] Subjective views meaning respondents' answers to survey questions about their opinion of the economy.

(Kiewiet and Udell 1998, 248), and Grier and McGarrity use the misery index (a combination of unemployment and inflation) (Grier and McGarrity 2002, 147). These studies use different indicators because there is no scholarly consensus as to what economic factors impact voting the most. Scholars do not know the cognitive process through which economic conditions are translated into voting decisions, so no one economic measure is agreed upon as the best measure to predict voting.

Also, Grier and McGarrity bring up an interesting methodological point in their paper. Their model, unlike the others, controls for whether a Congressional candidate is an incumbent and the amount of experience that an incumbent Congressmen had. They found that these two factors had an interactive effect with the economy where incumbents and especially incumbents with the most experience were affected more negatively by economic downturns than challengers or more junior Congressmen from the incumbent party (Grier and McGarrity 2002, 149-155). Even when the economy affects election, its effect is conditioned by other factors.

At the individual level, Markus using subjective views' of a person's economic situation, Healy using unemployment, and Margalit also using unemployment have found an individual's economic situation during the incumbent party's term had an impact in voting; a worsening personal situation increases the probability of voting against the incumbent (Markus 1988, 151; Healy 2009, 1-2; Margalit 2011, 166-167). However, Kinder and Kiewiet (1979) also examine the relationship between a person's economic situation and voting, and, using unemployment as their metric, they find no relationship (508-511).

Looking at the empirical work in its entirety, the economy is important in national election outcomes, and the incumbent party, that is the party that controls the presidency, receives the credit for a good economy and the blame for a bad economy. However, which

economic factors are most important is not clear. Some papers emphasize subjective views, others emphasize income, and still others look at unemployment. The variety of economic factors reflects the diversity of economic indicators in the US, and the fact that no one is exactly sure how Fiorina's retrospective voting heuristic works. Voters end with a decision about who to vote for and use the economy to make that decision, but how voters consider personal versus national economic factors is not clear. Are voters concerned more about wealth or employment? Are aggregate economic statistics or survey data the best indicator?

The scholarly work supports the contention that short-term factors are important in voting, but if the party in power has been in power for an extended period of time then long-term and short-term retrospection would be correlated so a lot of the evidence could overlap. Regardless, the scholarly evidence does not dissuade me of long-term retrospective voting in the 2012 election. Because of how severe the economic downturn was and Bush's unpopularity, 2012 was a unique election where long-term and short-term retrospection should have had vastly different effects.

Retrospective Voting Models in 2012

Retrospective voting theory has become so entrenched in political science that there has been a proliferation of models based around on it. The October 2012 edition of *PS: Political Science and Politics* included more than a dozen models that attempted to predict the election. Among them seven attempted to use economic factors along with other variables to predict President Obama's national vote share. The variables these models used were economic growth in the second quarter of the election year (Abramowitz 2013; Campbell 2013), change in leading economic indicators from when the President came into office until March of the election year (Erikson and Wlezien 2013), the National Business Institute survey (Lewis-Beck and Tien 2013),

levels of satisfaction with an individual's economic situation[2] (Holbrook 2013), a combination of estimated growth rate over the first three quarters of an election year and number of quarters during the presidency in which growth was over 3.2% (Cuzan 2013), and personal income estimates in quarter three of the election year (Hibbs 2013). Of these models, four correctly predicted that Obama would win and were within one percentage point of the final outcome.[3] The other three were wrong and each off by between four and five points.[4] So about half of the models were accurate and half were seriously flawed, but the ones that were accurate especially Abramowitz's and Campbell's have historically been the most accurate (Montgomery, Hollenbach, and Ward 2013 43-44); the inaccuracy of some of the models may show general flaws in the model not that the 2012 election followed an unusual trajectory.

In 2012, economic indicators could be used to accurately predict the presidential elections, but some indicators were clearly better than others. Moreover, all the models used factors besides the economy in their predictions especially the incumbency advantage. The use of other factors could mean that economic factors were not essential to making accurate predictions. For example, Abramowitz (2013) points out that he has been correct in predicting the winner of the popular vote for every election since 1988. But since 1992 his theory of incumbency alone—incumbents win the popular vote, and candidates of parties that have been in power for two terms lose the popular vote—would have correctly called every election except for one.[5] Even after

[2] This is based on responses to a survey question.
[3] While Lewis-Beck and Tien (2013) claim that their model correctly predicted the election, they had developed two models. These models had widely divergent predictions, and in initial publications they thought a different model was going to be most accurate (39-40). In their October article in *PS: Political Science and Politics,* they switched models to make their final predictions. Had their other model been chosen, a majority of the prediction models would have been inaccurate and off by substantial margins.
[4] I excluded from my analysis the models that predicted state elections, Northrop's (2013) model because it excluded any economic indicators, Montgomery Hollenbach, and Ward's (2013) model because it was based on aggregating the other models so added very little, and Lockerbie's (2013) model due to the fact that he did not explain how he used economic indicators.
[5] The exception is Gore in 2000 who won the popular vote despite following a two-term incumbent.

reading the description of these models, I question how important economic factors were to making accurate predictions.

One noteworthy critic of retrospective voting models is Nate Silver (2012). He argues the relationship between voting and the economy is not always a simple one and that in 1948, 1952, 1956, and 1968 it was foreign affairs that dominated the political conversation. After the work of Fair, Fiorina, and Key, the idea that the economy affected voting became well-established which led to the creation of predictive models (Silver 2012). Silver looked at the predictive power of these models in presidential elections from 1992 to 2008 and found that 18 out of 58 times their predictions were off by a margin greater than their 95% confidence interval. He went on to say that these models "have had almost no predictive power at all" (Silver 2012). Overall, Silver agrees with the majority of the literature that the economy does impact election results, but he contends that the relationship may not be as simple as some people say.

Voter Turnout and the Economy

To understand the full magnitude of the economy's effect on voting especially in national elections, voter turnout is also important. However, unlike the economy and voter choice, the relationship between turnout and the economy has not been well-established. Rosenstone (1982) finds that economic adversity—a combination of subjective views of personal fortune, unemployment, and household income—depresses turnout at the individual level. For national elections from 1948-1980, Rosenstone finds that higher levels of aggregate unemployment were correlated with lower voter turnout nationally. Rosenstone's explanation for lower turnout during worse economic periods is that the unemployed and people with financial problems focus more of their resources on survival and less on abstractions such as politics (41-44).

On the other hand, Burden and Wichowsky (2012) find the exact opposite effects on Presidential elections from 1976-2008; higher levels of aggregate unemployment increase turnout nationally. State level unemployment rates had a greater effect than county rates, and as the unemployment rate increased the disparity in turnout between the employed and the unemployed decreased. This effect would lead to the incumbent during a period of high unemployment facing an even higher penalty because more voters would turnout, and they would be more likely to vote against the incumbent (15-16).

These findings are not in direct conflict; unemployment could have suppressed turnout in Congressional elections from 1948 to 1980 and increased turnout in Presidential elections between 1976 and 1984. But, regardless, it is hard to see how to reconcile the findings to make a prediction for turnout in the 2012 presidential election.

Burden and Wichowsky (2012 14) and Rosenstone (1982 42) do agree that an individual becoming unemployed decreases the likelihood of that person voting. Matthew Incantalupo (2012) at Princeton developed a theory, "Unemployment in Context", to explain the relationship between unemployment and voting. He says that overall the unemployed are less likely to vote but as the unemployment rate increases, the likelihood of the unemployed voting increases. The reason, according to Incantalupo, is that when the unemployment rate is low and a person loses their job, they view it as a personal failing and become demoralized and do not engage with society. As the unemployment rate increases, unemployment is viewed as a social problem, so the unemployed are more likely to turn out and vote to change the situation (15-16).

Conclusion

Retrospective voting has become one of the most established theories in political science and has been shown to occur in Presidential elections, Congressional elections, and at the

individual level. The theory traces its origin back to work done by VO Key (1966) on rational voting in the 1932 election and the New Deal. It was given its name by Morris Fiorina (1978 and 1981) although by that time previous scholars had already examined the impact of the economy on voting. Since Fiorina's original work, a number of empirical studies have been done validating the theory and providing more evidence of the importance of the economy. Based on this evidence, political scientists have created models to predict election results months in advance using economic indicators. Nevertheless, I believe retrospective voting is too short in its outlook because it only considers the current state of affairs and propose long-term retrospective voting as a better explanation of the 2012 election.

Retrospective voting theory looks at the incumbent's performance in a variety of capacity which is why economic factors and presidential approval rating are important in retrospective voting models. However, I am basing and testing my theory on the 2012 election which was an economic election, so I am only focusing on economic factors. The basic idea of my theory is that voters considered both the incumbent's and predecessor's performances, and were evenly split as to who to punish, so economic conditions were not correlated with voting. To test this theory, I am first running a regression of the change in the unemployment rate during Obama's first term and the change in his vote share between elections at the county level.

Chapter 2: County Level Test

According to my theory of long-term retrospective voting and its application to the 2012 election, short-term economic conditions should not be correlated with voter choice because voters were still considering Bush's economic performance and did not agree who should be blamed. Therefore, the 2012 election will not show a correlation between change in the unemployment rate during Obama's first term and his change in vote share at the county level. I am also running the same regression for Bush and Clinton's reelection and expect to see a negative correlation; as unemployment increases, vote share should decrease. These regressions create a point of comparison where short-term conditions should be important. This test is performed at the county level in order to view the effect of economic conditions on an individual and their immediate surroundings.

The most relevant work to my theory is Healy (2009). He looked at the effect of unemployment within a county on voting in the 2008 election. He used announcements of layoffs as his independent variable, and the dependent variable was the change in votes that Bush received in 2004 versus McCain in 2008. His model estimates the effect to be that for every 1% increase in the percentage of the working age population that had been laid off the incumbent party received .99% fewer votes (16-19).

A number of other studies have studied county level effects and found that differences in county population density, urban, rural, or suburban, affect voting patterns even after controlling for factors such as race, religion, and income (McKee and Teigen 2009, 494; Gimpel and Karnes 2006, 471; Kim, Elliott, and Wang 2003, 758-759; Murauskas, Archer, and Shelley 1988, 81). Rural counties tend to vote Republican even after controlling for relevant factors which Kim, Elliott, and Wang (2003) attribute to the self-identities of counties. Rural counties view

themselves as self-sufficient and entrepreneurial, and this view leads them to adopt the self-image of the small-business owner in line with Republican rhetoric not the worker in need of government protection (758-759). However, the effect of population density explains very little of the variation in county level voting (Murauskas, Archer, and Shelley 1988 81). A more powerful explanation of the differences in county level voting is spatial polarization; liberals move to counties with other liberals to live next door to like-minded people; conservatives move to counties with other conservatives (McKee and Tiegen 2009, 494).

In terms of retrospective voting, Kim, Elliott, and Wang (2002) study the effect of economic indicators on voting in presidential elections at the county level. They find clear evidence for retrospective voting when an incumbent is on the ballot but less clear evidence in open-seat elections. This leads them to conclude that voters are more prospective when no incumbent is running (758-759).

There is a lack of research about retrospective voting at the county level (Kim, Elliott, Wang 2002, 758). From the available evidence, it is clear that counties have distinct voting patterns, and voting is affected by both the composition of the county and by economic factors. This means that for my county level test I need to control for a variety of factors at the county level including population density. While the primary reason I chose the county level is because it provides the ability to examine economic effects on communities, another advantage of a county level test is that it will be an addition to a little studied aspect of retrospective voting.

Methods

Using a large N design, I am testing whether local unemployment affected voting in 2012. I am looking at county level data because it is the optimal level to see the effect of unemployment on both the individual and their community; the county includes not just people

who lost their job but friends and family who are affected and coworkers who now have to worry about their own job. I am examining the change in unemployment during Obama's presidency, January 2009 to November 2012, compared to the change in his vote share from 2008 to 2012. The independent variable is the change in unemployment, and the dependent variable is the change in the percentage of people that voted for President Obama.[6] For this analysis, I am running an ordinary least squared regression using Huber-White standard errors with the change in vote as the dependent variable, the change in unemployment as the independent variable, and controlling for race, age, income, initial levels of unemployment, and whether a county is rural or urban. The analysis excludes data from Alaska because county level unemployment data does not exist for Alaska.

To better establish my results, I am running this same analysis for Bill Clinton's and George W. Bush's elections. These regressions compare the change in county unemployment during the first four years of their presidencies to the change in vote share between their first and second elections and use the same controls. My hypothesis is that for Clinton and Bush there will be a negative relationship between the change in unemployment and the change in the incumbent vote share, but there will be no relationship for Obama's second election.

In 2012, people were considering the government and economy's performance over a longer period than just the past four years, so short term factors are not predictors of vote share. Therefore, the change in the unemployment rate over the previous four years is not correlated with changes in vote share. However, the Bush and Clinton elections experienced short-term retrospective voting; the economy was seen as squarely a result of their policies, so they were blamed and rewarded for it successes and failings.

[6] A positive relationship means a higher unemployment rate is correlated with increased votes for the incumbent candidates. A negative relationship, what should normally be expected, means a lower unemployment rate is correlated with increased votes for the incumbent.

My theory would be falsified if the Bush or Clinton regressions has a positive relationship or I fail to reject the null hypothesis, or if the Obama regression has a negative relationship.

For these regressions, I am controlling for income, race, initial levels of unemployment, the rural-urban continuum, and age. Age, income, and race are known corollaries with vote at the individual level and are not uniformly spread across counties. The rural-urban continuum shows differences in the makeup of counties, and previous research has shown it affects voting. I am also controlling for the initial level of unemployment—the unemployment rate in January of a president's first year—because counties with extremely high levels of unemployment may gain a great deal of jobs but still have a struggling economy, and counties with extremely low levels of unemployment may lose jobs but still have a booming economy .

Whenever possible, I am controlling for these factors at the county level based on data that was taken between the two elections (the exception to this is the median age data for Bush and Clinton and the rural-urban continuum for all three were not taken between elections). The fact that I have a large N, over 2,000 counties, gives me great confidence that any confounding variables will not affect my results.

Data

In gathering all the relevant data for this test, I have had to use a variety of data sources. The unemployment rate is calculated each month by the Bureau of Labor statistics through the Current Population Survey for the nation as a whole, the states, and counties. The CPS is a survey of over 60,000 households and 110,000 people that is designed to elicit key information including unemployment (Department of Commerce 2009, Bureau of Labor Statistics 2013).

The election data for 2008, 2004, 2000, 1996, and 1992 was published as a dataset by CQ press. The 2012 elections results were published as a dataset by *The Guardian* but excluded CO, CT, FL, GA, HI, ME, MA, NH, RI, SC, UT, VT, and WY, so I used data from *Politico* to create a dataset with the complete 2012 results (Politico 2012, Guardian 2012.).

Race is defined for governmental purpose as American Indian, Asian, Black, or White, and Hispanic or non-Hispanic is considered ethnicity which is a subset of race. For the purpose of this paper, I am dividing race and ethnicity as five separate categories using Hispanic as a completely separate group. Race and ethnicity for inter-Census years is calculated by the CDC as part of its WONDER program which makes data available online to help health professionals. The CDC uses a regression based on Census numbers combined with other survey data to create its estimates for inter-census years (Department of Health 2003, Center for Disease Control 2013).

Personal income is defined as income received for production or transfer payments from businesses and the government but does not include capital gains. The county level income number is calculated by the Bureau of Economic Analysis using numbers from a variety of sources including the IRS and Social Security Administration combined with survey data from the Census Bureau and Bureau of Labor Statics (Department of Commerce 2012 11). The specific income number I am using is income per capita as a percentage of US average income per capita (100 would mean the income per capita of the county was equal to the national average, less than a 100 signifies it is below the national average, and above 100 means it was greater than the national average) (Bureau of Economic Analysis 2013).

Median age is calculated as part of the decennial census but is not calculated at the county level between censuses. The median age for the Obama analysis was taken between the

two elections as part of the 2010 census, but for Bush and Clinton the median age by county was not available between elections (US Census Bureau 2013). For Bush, I used the 2000 census data on median age as the control without any adjustment. Clinton's elections posed a greater challenge since they occurred between census, so I decided to average the 1990 and 2000 median ages. While both median age data for Clinton and Bush may be slightly off, it should be relatively accurate, and I do not believe it will affect my results.

I am converting both median age and income into intervals rather than continuous variables. I ordered each county on the basis of age, and by income, and then ranked them by deciles. The oldest and richest ten percent of counties were labeled ten, then nine, and so on (see the appendix for the age and income range for each interval).

The rural-urban continuum is calculated by the US Department of Agriculture and is used to determine county eligibility for certain government programs. It is a nine point scale from most rural to most urban with 7, 8, and 9 all representing counties that the USDA classifies as urban. The scale looks at a county's population, geographic area, and proximity to a major metropolitan area in determining its ranking (Department of Agriculture 2013). However, the USDA only calculates this once every ten years, so the ratings for the Clinton regression were calculated in 1993, and for Bush and Obama they were calculated in 2003. This means the continuum will be somewhat out of date and inaccurate for the Obama analysis, but the degree of urbanization changes very little over a ten year interval (Department of Agriculture 2013 NP).[7]

Obama Results

The analysis for President Obama uses, as the dependent variable, the county level change in Obama's vote share from 2008 to 2012; this variable is simply the 2012 results minus

[7]Running a regression of the 1993 against 2003 data produces a Pierson's r squared of 0.85, so while the figures change a little over 10 years there are quite similar over a ten year period.

the 2008 results. Obama saw a decrease in vote share from 2008 to 2012 in most counties, and the average county level decrease was greater than the decrease in his national vote share of 1.8 percentage points.

Table 2.1
Values for Change in Obama's Vote Share and Change in the Unemployment Rate

	Percentage Point change in Obama's vote from 2008 to 2012[8]	Percentage Point change in the unemployment rate from January 2009 to November 2012[9]
Mean	-3.0842	-1.7368
Median	-2.9	-1.4
Min	-21.3	-26[10]
Max	10.4	12.2
IQR	3.8	2.6
Variance	9.6155	5.71
Standard Deviation	3.1009	2.3907
Skewness	-0.6427	-1.17

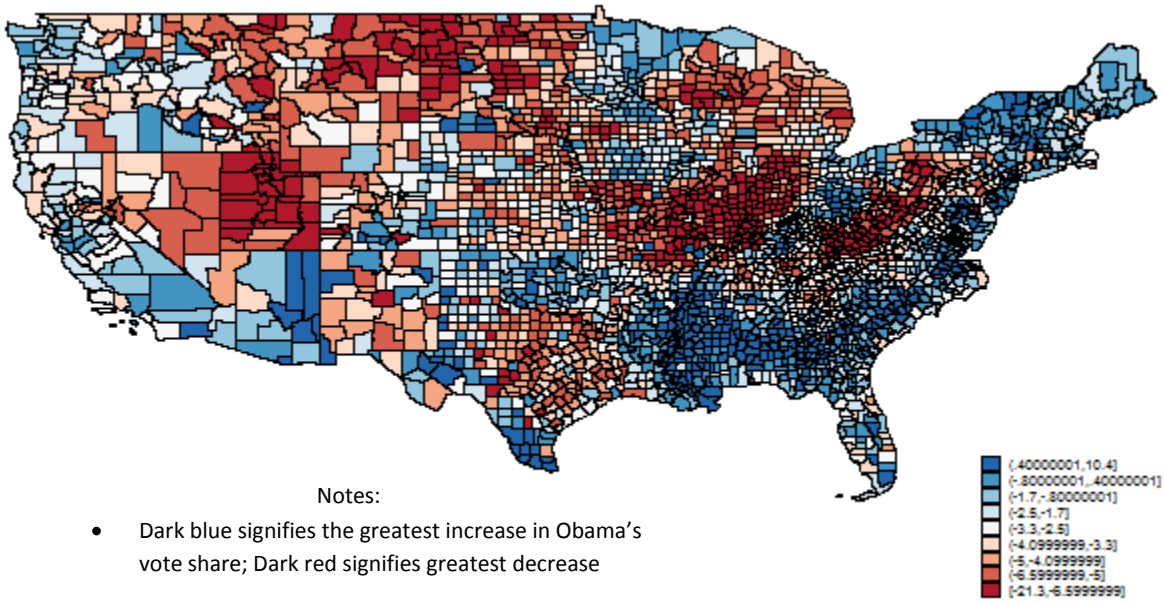
The independent variable in this analysis is the change in unemployment at the county level from when Obama took office until November 2012. It was calculated by subtracting the Bureau of Labor Statistic county unemployment rate for January 2009 from November 2012 numbers (November 2012-January 2009); a negative value signifies that the unemployment rate decreased from 2009 to 2012, and positive values signify it increased.

(See Figure 2.1 and 2.2) Figures 2.1 and 2.2 plot the data as it occurs in the US and provide the opportunity to examine regional trends. The bright red areas in figure 3.1 correspond to the areas where Obama lost the highest percentage of votes, and it is visible in the Midwest around Indiana, Illinois, and Missouri, in Utah, and in the area around North Dakota and Montana. Figure 2.2 uses a green scale with the darkest Green representing areas where the

[8] Negative values signal a decrease in Obama's vote share from 2008 to 2012.
[9] Negative values signal a decrease in the unemployment rate
[10] The 26 percentage point decrease occurred in Sargent County, ND. I investigated it but could not figure out why that happened. This also skewed the range for the unemployment numbers.

unemployment rate increased the most and the white representing areas where the unemployment rate decreased the most; white is apparent in some counties in Utah, Oregon, and large portions of the Midwest while dark green is clear in Washington, New Mexico, and Colorado. Looking at the two maps, it is hard to see entire regions where jobs were gained and Obama increased his vote share or where jobs were lost and Obama's vote share decreased.

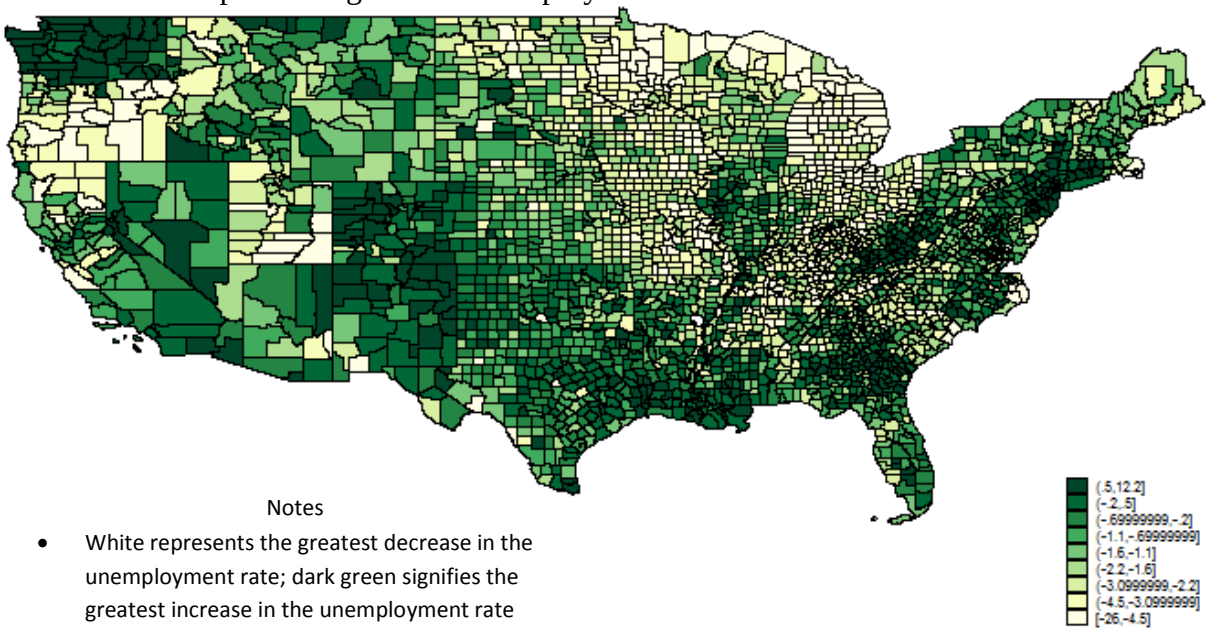
Figure 2.1
Map of Change in Obama's Vote Share in the Continental US



Notes:

- Dark blue signifies the greatest increase in Obama's vote share; Dark red signifies greatest decrease

Figure 2.2
Map of Change in the Unemployment Rate from Jan/09 to Nov/12



Notes

- White represents the greatest decrease in the unemployment rate; dark green signifies the greatest increase in the unemployment rate

(See Table 2.2) The least squared regression with the change in vote share as the dependent variable and the change in the unemployment rate, age, income, race and ethnicity, initial levels of unemployment, and the rural-urban continuum as explanatory variables using Huber-White standard error creates a statistically significant model of county-level voting changes; the model explains roughly a third of the change in county-level voting between the 2008 and 2012 elections.

Among the control variables, the median age variable and the initial level of unemployment are not statistically significant at the 95% confidence interval. All of the race and ethnicity categories, the income variable, and the rural-urban continuum are statistically significant. Not surprisingly, the race and ethnicity variables are the most substantively significant variables and contribute a large percentage of the explanatory power of the model.

Table 2.2
OLS Regression Results for Change in Support for Barack Obama 2008-2012

Variable	Coefficient	Robust Standard Error
Change in unemployment rate from January 2009 to November 2012	-0.1128**	0.039
Income ranked by deciles	0.0499*	0.219
Median Age ranked by deciles	-0.0119	0.208
American Indian or Alaskan Native percentage of county population (percentage)	6.3845***	0.919
Asian or Pacific Islander (percentage)	7.0658***	1.274
Black or African American (percentage)	11.6982***	0.406
Hispanic (percentage)	5.2803***	0.415
Rural-urban Continuum	-0.0992***	0.022
Unemployment rate Jan/2009	0.0058	0.024

*=significant at the 95% confidence interval
**=significant at the 99% confidence interval
***=significant at the 99.9% confidence interval
R-Squared=0.3175

My hypothesis was that there would not be a statistically significant relationship between the change in unemployment and the change in Obama's vote share, and I have to reject my hypothesis. There is a negative relationship between the change in the unemployment rate and the change in vote share; as the unemployment rate increased, Obama's vote share decreased. This finding follows logically from short-term retrospective voting and is in line with Healy's (2009) findings. However, while the two are statistically significant, the relationship is a weak one; a 10 percentage point increase in the unemployment rate would reduce Obama's vote share by a little more than one percentage point. Of the 3,034 counties included in this regression, only

one, Yuma, AZ, has an increase in the unemployment rate great enough to lower Obama's vote share by at least one percentage point. In only 17 counties is the reduction in the unemployment rate great enough to increase Obama's vote share by a full percentage point. Furthermore, the change in unemployment added almost no explanatory power to the model; the same model without it has an r squared that is only 0.0034 lower.

Another important question about the effect of the county unemployment change is whether it could have changed which presidential candidate won a given state. I am choosing to look at North Carolina because it was a swing state, so its outcome was significant to the national results, and it has 100 counties; the larger the number of counties the more likely a county level effect could change outcomes statewide.

Effect of Unemployment Change on State Election Results

I am testing whether the change in unemployment rate at the county level could have changed state results to see whether, even though it added little to the model and had a small coefficient, it could have had an impact on the national election results.

To calculate the change in votes, I first multiplied the change in unemployment for each county by the correlation coefficient, -0.11, and subtracted this number from Obama's percentage for each county to calculate a new percentage.[11] Then I multiplied the new percentage by the total votes cast in each county to calculate Obama's vote share without the effect of the change in unemployment and summed up the new totals. Lastly, I subtracted the new total from Obama's actual total in North Carolina to determine the number of additional votes Obama received due to the decrease in the county level unemployment rate.[12]

[11] Because the percentage of votes Obama received in 2012 included any effect from the change in unemployment, I subtracted UnemploymentChange*-0.107 from the county level percentage to disaggregate this effect.
[12] Additional Votes= (Actual number of votes for Obama)-(Total Votes in each county in North Carolina*(Obama's percentage-(UnemploymentChange*-.107))

In North Carolina, the effect was not great enough to change state level results. The average county in North Carolina saw their unemployment rate drop by 1.31 percentage points during Obama's first term, but the reduction in county unemployment only led to 24,963 more votes for Obama.

In 2012, there were 4,499,039 votes cast in North Carolina, and the effect of changes in county level unemployment rate increased Obama's vote total by 24,963; the increase in votes is equal to 00.56% of the total vote casts which was clearly not large enough to change the outcome for North Carolina nor was any state result decided by 00.56% or less. While county unemployment rates impacted voting, the effect was likely not large enough to change the outcome at the state level.

Bush Results

As mentioned in the beginning of this chapter, I am running the same regression for Bush and Clinton's reelections. The reason I am doing this is because these were two elections where retrospective voting should have applied, so these regressions provide a comparison for the Obama regression. For the George W. Bush analysis, the dependent variable is the change in the county level vote from 2000 to 2004; it is the election results in 2004 minus the 2000 results (Voting 2004-Voting 2000). Bush's county level vote change was slightly higher than the 2.8 percentage point change in the national results.

Table 2.3
Values for Change in Bush's Vote Share and Change in the Unemployment Rate

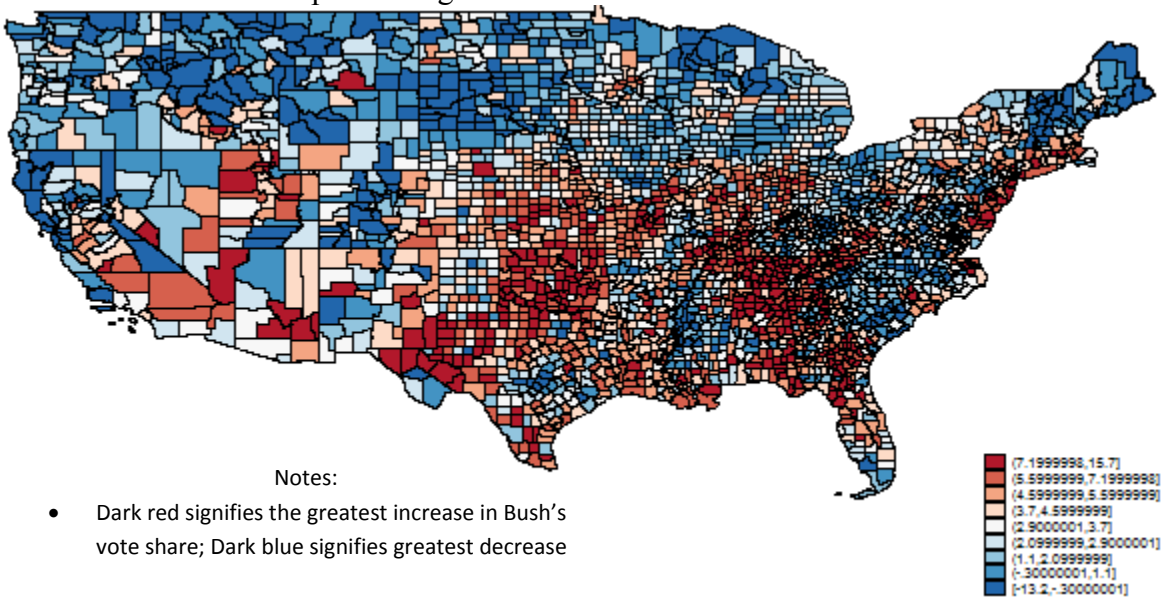
	Percentage point change in Bush's vote share from 2000 to 2004	Change in the unemployment rate from January 2001 to November 2004[13]
Mean	3.2816	-0.1477
Median	3.2	0.1
Min	-13.2	-13.4
Max	15.7	5.7
IQR	4	1.8
Variance	10.3312	2.6833
Standard Deviation	3.2142	1.6381
Skewness	-0.0941	-1.2515

The independent variable for this analysis is the change in unemployment during Bush's first term (Unemployment in November 2004-Unemployment in January 2001). While the median change in unemployment is negative, the mean is positive and both hover around zero showing that there was on average very little change in the unemployment rate during Bush's first tem.

(See Figures 2.3 and 2.4) Looking at the shaded map of the US, the unemployment rates fell drastically in the Northwest, and unemployment rates increased in the Southeast, Oklahoma, and Colorado. The map of Bush's vote share shows that the vote share increased in parts of Alabama, Kansas, Oklahoma, and Tennessee, but decreased in the entire northern part of the US including Republican areas such as Montana.

[13] Negatives signal a decrease in the unemployment rate.

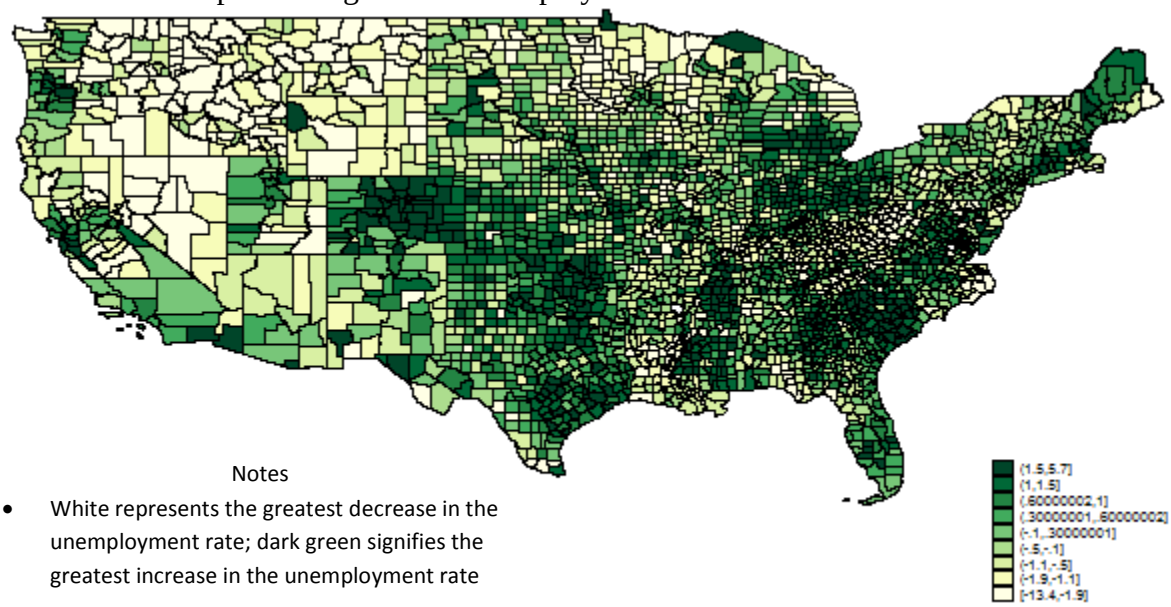
Figure 2.3
Map of Change in Bush's Vote Share in the Continental US



Notes:

- Dark red signifies the greatest increase in Bush's vote share; Dark blue signifies greatest decrease

Figure 2.4
Map of Change in the Unemployment Rate from Jan/01 to Nov/12



Notes

- White represents the greatest decrease in the unemployment rate; dark green signifies the greatest increase in the unemployment rate

The least squared regression with the change in vote share as the dependent variable and the change in the unemployment rate, median age, income, race and ethnicity, as the independent variables is statistically significant. However, the regression model explains a little more than

10% of the variation in the change in county level voting from 2000 to 2004, which is about 1/3 of the explanatory power of the Obama regression despite using the same variables.

(See Table 2.4) Examining the control variables, the Asian population percentage is not statistically significant at the 95% confidence interval. The American Indian, Black and Hispanic population percentages are significant as are income, age, initial levels of unemployment, and the rural-urban continuum.

Table 2.4
OLS Regression Results for Change in Support for George W. Bush 2000-2004

Variable	Coefficient	Robust Standard Error
Change in unemployment rate from January 2001 to November 2004	0.0073272	0.052
Income ranked by deciles	-0.4158***	0.027
Median Age ranked by deciles	0.0599*	0.025
American Indian or Alaskan Native percentage of county population (percentage)	-7.9231***	1.539
Asian or Pacific Islander (percentage)	-8.077	5.475
Black or African American (percentage)	-2.1073***	0.455
Hispanic (percentage)	1.869***	0.49
Unemployment rate Jan/01	-0.2567***	0.037
Rural-urban Continuum	-0.2883***	0.029

*=significant at the 95% confidence interval
**=significant at the 99% confidence interval
***=significant at the 99.9% confidence interval
R-Squared=0.1334

My hypothesis was that there would be a negative correlation between changes in the unemployment rates and vote share, and I have to reject my hypothesis. There is no correlation between the change in unemployment and change in vote share.

In 2012, the economy was an extremely important issue, and the change in the unemployment rate at the county level is a statistically significant factor in voting patterns. However, the 2004 election focused more on national security and foreign policy, and with a focus away from the economy, county level unemployment was insignificant in voting. The exit polling from 2004 showed that only 20% of voters thought the economy was the most important issue compared to 34% that thought Iraq or Terrorism was most important, and to the 59% of voters in 2012 that thought the economy was most important ("US President…" 2004; Washington Post 2012).

While I am rejecting my hypothesis, Bush's reelection does exemplify some of the reasoning behind my theory. I believed it is a flawed approach to think the economy will influence each election the same way, and the economy clearly had a lesser impact at the county level in 2004. Short-term retrospective voting was insignificant in 2004 not because voters were long-term retrospective, which is my theory for 2012, but because they simply were not concerned about the economy.

Abramowitz (2004) assesses factors that helped George W. Bush's reelection. Looking at state level data, he finds that increases in turnout did not help Bush, so his victory was not a result of a well-run ground campaign. Another part of the Republican strategy was to put gay marriage on ballots in 11 key states, but the data shows that there was no correlation between gay marriage being on the ballot and Bush's vote at the state level after controlling for Bush's vote share in 2000. Similar to my results, this regression also shows no correlation between unemployment at the state level and voting. Abramowitz concludes that Bush won reelection and increased his vote share because he was the incumbent and the public trusted him to deal with national security issues (Abramowitz 2004, 4-7).

Clinton Results

Lastly, for the Clinton regression, the dependent variable is the change in the percentage of votes Clinton received at the county level vote from 1992 to 1996, which is the 1996 results minus the 1992 results. The county level results show a smaller increase for Clinton than the national average.

Table 2.5
Values for Change in Clinton's Vote Share and Change in the Unemployment Rate

	Percentage Point change in Clinton's vote share from 1992 to 1996	Percentage point change in the unemployment rate from January 1992 to 1996
Mean	4.20	-2.8956
Median	4.3	-2.7
Min	-12.7	-20.5
Max	20.7	20.2
IQR	3.2	5.7
Variance	15.22	7.0901
Standard Deviation	3.9	2.6627
Skewness	-0.02105	-0.1413

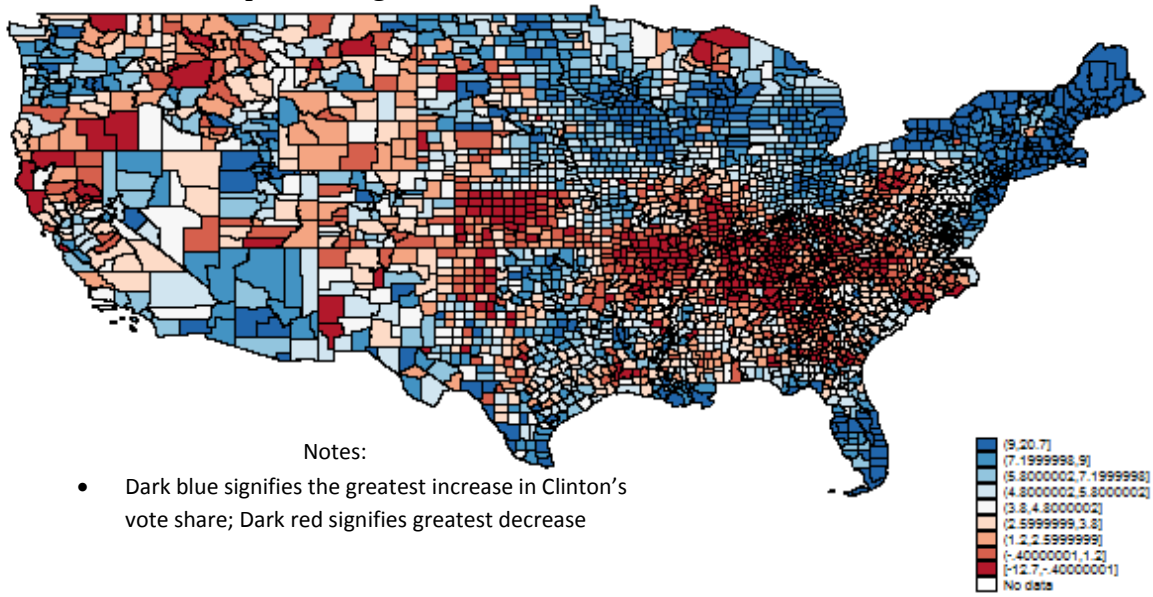
The independent variable for this analysis is the change in unemployment during Clinton's first term (Unemployment November 1996 – Unemployment in January 1993). Clinton's reelection was different than Bush's and Obama's because Clinton faced a significant third party challenge in both elections and the economy was experiencing rapid growth.[14]

(See Figures 2.5 and 2.6) The increases in unemployment seem to be concentrated in the middle of the country, between the Mississippi River and the Rocky Mountains. The south also experiences some increases in the unemployment rate. On the other extreme, California and the West Coast seemed to gain the most jobs. In terms of vote share, the Northeast swung

[14] The economy grew 7.1% in the third quarter of 1996 ("US GDP…" 2012 NP)

overwhelmingly towards Clinton while the area around Tennessee, Kentucky, and Missouri seems to be where Clinton's vote share decreased the most. In terms of overlap, Nebraska stands out as an area where both jobs were lost and Clinton lost votes while the New England area has a lower unemployment rate and an increase in Clinton's vote share.

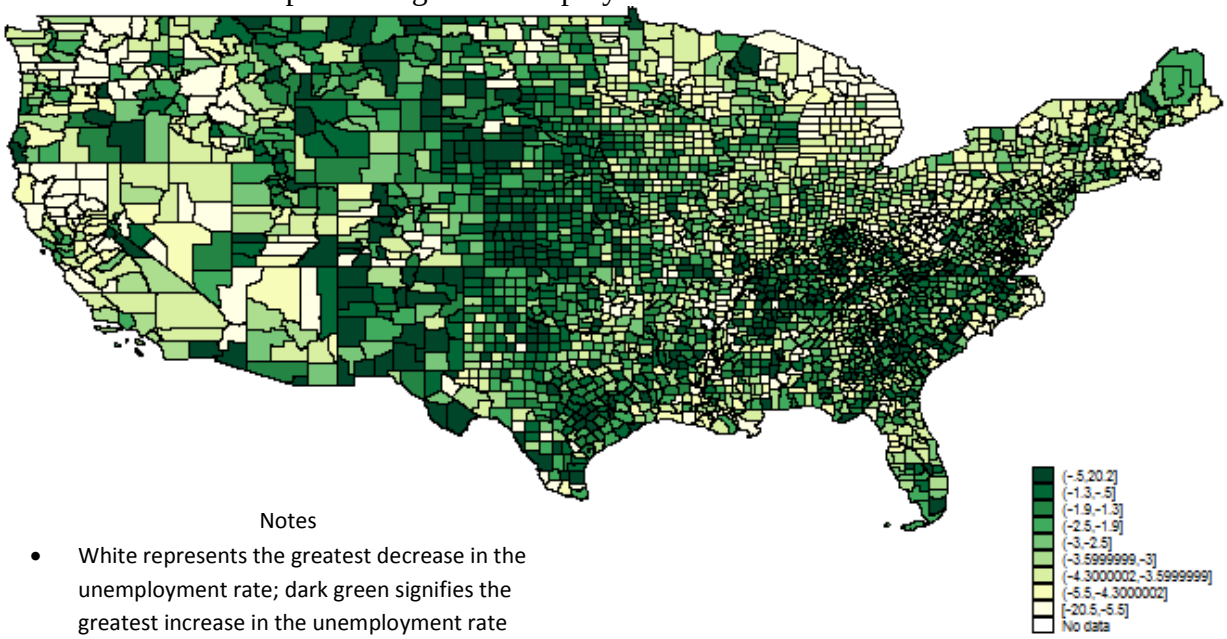
Figure 2.5
Map of Change in Clinton's Vote Share in the Continental US



Notes:

- Dark blue signifies the greatest increase in Clinton's vote share; Dark red signifies greatest decrease

Figure 2.6
Map of Change in Unemployment from Jan/93 to Nov/96



Notes

- White represents the greatest decrease in the unemployment rate; dark green signifies the greatest increase in the unemployment rate

(See Table 2.6) The ordinary least squared regression using robust standard error with change in vote share as the dependent variable and the change in the unemployment rate, median age, income, race and ethnicity, the rural-urban continuum, and the initial level of unemployment as the explanatory variables is statistically significant at the 95 percent confidence interval and explains 15% of variation; it explains more than the model for Bush but less than Obama's.

Of the control variables, the percentage of a county that is African American and the percentage that is Asian are not statistically significant. The rural-urban continuum, income, median age, the Hispanic and American Indian population percentages, and the initial level of unemployment are statistically significant.

Table 2.6
OLS Regression Results for Change in Support for Bill Clinton 1992-1996

Variable	Coefficient	Robust Standard Error
Change in unemployment rate from January 1993 to November 1996	-0.2768***	0.043
Income ranked by deciles	0.2851***	0.027
Median Age ranked by deciles	-0.0713*	0.028
American Indian or Alaskan Native percentage of county population (percentage)	9.8872***	1.178
Asian or Pacific Islander (percentage)	3.2163	2.345
Black or African American (percentage)	0.5029	0.489
Hispanic (percentage)	5.8861***	0.712
Unemployment rate Jan/93	-0.0917***	0.026
Rural-urban Continuum	-0.1654***	0.031

*=significant at the 95% confidence interval
**=significant at the 99% confidence interval
***=significant at the 99.9% confidence interval
R-Squared=0.1542

My hypothesis is that the change in unemployment would be negative correlated with the change in Clinton's vote share, and I fail to reject that hypothesis. As I predicted, there is a statistically significant, negative relationship between the two variables; as unemployment increased, Clinton's vote share decreased. This relationship is twice as strong as the relationship between these two variables for Obama; in this case, a five percentage point increase in the unemployment rate would decrease Clinton's vote share by more than one percentage point. At

least a five percentage point increase in unemployment occurred in 26 counties, and at least a five percentage point decrease occurred in 476 counties or roughly 1/6 of all counties.

Analysis

At the county level, I have to reject my hypothesis that the 2012 election did not follow short-term retrospective voting theory. The ordinary least square regression with robust standard error shows that the unemployment rate had a negative correlation with the change in Obama's vote share; increases in unemployment decreased Obama's vote share in 2012.

The comparative regressions for Bush and Clinton point to a problem with retrospective voting theory: the economy affects elections differently. The change in the unemployment rate for Clinton has a notable impact on voting, but the change in the unemployment rate for Bush is not statistically significant.

Unemployment played a different role in each one of these elections. For Clinton, it was an important factor that substantively increased his vote share, for Obama it was an unimportant factor that affected his vote share slightly, and for Bush it was not even statistically significant. Likewise, each one of these election had a different relationship with the economy. In 1996, the economy was booming and was an important factor in the election although other domestic concerns such as education, crime, and Medicare were also important ("United States GDP…" 2013; CNN 1996). In 2012, the economy was struggling and had been for some time, and the economy was the issue ("United States GDP…" 2013; Washington Post 2012). And in 2004, the economy was neither booming nor struggling and foreign policy was an important concern ("United States GDP…" 2013; CNN 2004). With different states of the economy and the electorate focused on different issues, the economy's impact on voting varied between these reelection campaigns.

Conclusion

How does this relate to my theory of long-term retrospective voting? I ran the regression of short-term economic factors at the county level because I believed they would show that despite the economy's importance in the 2012 election, the change in economic factors over a four year period was not significant. The change in the unemployment rate was significant and I am rejecting my hypothesis, but I am not at this point rejecting my overall theory that voters in 2012 were considering the economy's performance over an extended period of time. Economic conditions had a stronger impact on Clinton's reelection even though three times as many people ranked the economy as the most important issue in 2012 than in 1996 (Washington Post 2012, CNN 1996). Why would this be? I believe it was, despite conditions being worse and more people being concerned, there was not unanimity about who to blame or credit for conditions.

However, variations in substantive effects are not great evidence, or at least not the evidence I expected, for long-term retrospection. So I am next going to test my theory at the individual level using a CNN poll to look at the comparative importance of prospective and retrospective voting. My theory predicts that who voters believed would be better for the future will be correlated with voting but not subjective views of the economy.

Chapter 3: Individual Level Test

The next test of my theory is an individual level test using the last CNN poll before the election. I believe subjective views of the economy did not affect the vote because voters were long-term retrospective; they were weighing information going back an extended period and assigning blame and voting on this information instead of simply considering the incumbent and the current state of the economy. However, voting was largely concerned about the economy, and voters chose candidates based on a belief about which candidate would be better for the future of the economy.

Compared to retrospective voting, prospective voting, voting based on evaluations of what candidates or parties will do in the future, has been little studied, but the research generally finds that it exists. In 2004, retrospective and prospective attitudes towards the war in Iraq were significant. Retrospective judgments about President Bush's decision to use force were more important in determining voter choice than thoughts about the future of the war, but thoughts about the future of the war determined casualty tolerance of an individual (Gelphi, Reifler, Feaver 2007 171). Using ANES data, Lockerbie (1991), Michelitch et al (2010), and Campbell, Yin, and Dettrey (2010) found an effect of prospective evaluations of the economy on voting; believing a specific party or candidate would help the economy is correlated with how an individual voted. Prospective voting is more important in elections where no incumbent is running, and voters have to make decisions based on party and candidate platforms (Campbell, Yin, and Dettrey 2010 1093). Lockerbie (1991) compared the strength of prospective evaluations, retrospective evaluations, and party identification and found party ID was the most important factor followed by prospective voting which was twice as strong as retrospective voting. However, Lanoue (1994) found that retrospective concerns were the most important to

voting in presidential elections with an incumbent (203-204). In these elections, retrospective and prospective distinctions might be artificial because "the best indicator of future performance is past performance, and voters who look backward may, in that sense, also be prospective voters" (204).

Woon (2010) sets up a laboratory experiment to test whether voters are prospective or retrospective. The experiment was in the form of a computer simulation where participants acted as voters[15] and chose to reelect incumbents or not. The results showed that voters had a clear tendency to reward or punish politicians for the past performance and did not seem to consider future evaluations (12-18). While most of the real world tests have shown prospective voting to exist and even be stronger than retrospective voting, this laboratory experiment calls into question that evidence.

Rather than an experiment, I am using a CNN poll conducted between November 2-4, 2012 asking voters for their views on the state of the economy, which candidate would be better for the economy over the next four years, and who they would vote for (CNN 2012). For this data, I am using a logistic regression of individuals who selected one of the major party candidates. I am controlling for age, education level, income, race, gender, and political ideology using questions asked in the poll.

All of the controls except for gender and race are interval variables (see appendix). The age variable has 13 intervals differentiated by roughly four years starting at 18, and ending at 75 years and older. Income has five intervals; the first interval is under $25,000, then it groups incomes together by $5,000 increments, and the last interval is $50,000 and over. Ideology has five intervals going from most conservative to most liberal. Education has seven intervals

[15] Participants also acted as politicians but that was a test of the Burkean view of representation (Woon 2010 1).

representing different levels of educational obtainment from no high school education to a graduate degree.

The dependent variable is voter choice. This particular poll found that Obama would receive 49% of the vote and Romney 49%. I recoded this variable including only people who chose one of the two major party candidates coding Obama as one and Romney as zero.

There are two explanatory variables that are important for my analysis: a person's view for the future of the economy and a person's view of current economic condition. The current economic conditions question is worded: "How would you rate the economic conditions in the country today – as very good, somewhat good, somewhat poor, or very poor?" The question about the future of the economy is:

> Which of the following statements best describes your view of the economy:
> 1) It will only get better if Barack Obama is re-elected President
> 2) It will only get better if Mitt Romney is elected President
> 3) It will get better if either Obama or Romney is elected
> 4) It will not get better if either Obama or Romney is elected

I recoded the first question, the current economic conditions question, into a categorical variable: anyone who answered the economy was poor or very poor is coded as a zero; anyone who answered good or very good is coded as a one. The idea behind this coding is that voting is based on a determination as to whether the economy is good or bad. Retrospective voting is concerned about how viewing the economy positively versus negatively affects voting not how marginal increases affect voting.

The candidate-specific prospective question is coded as four separate, categorical variables. Each answer is its own variable, and those who answered yes are coded as one and those who answered no are zero.

With these variables in mind, my hypothesis is that the question about which candidate is better for the future of the economy will be strongly correlated with voter choice but the evaluations of the current economic situation will not be correlated. People who believe Obama would help the economy will overwhelmingly vote for Obama, and people who think Romney would help the economy will overwhelmingly vote for Romney. However, a person's view of the current state of the economy will not be correlated with their vote because this question fails to account for who is to blame for the conditions and whose policies would make it better. This question focuses only on the economy at one point in time, and voters were making decisions based on the evidence accumulated overs many years.

Results

Of the over 1,000 people surveyed, only 332 answered all the relevant questions (excluded from this sample is anyone who refused to answer a question, answered "did not know" to a question, or said they were voting for someone other than the two major party candidates). Within this group, 46% would have voted for Obama and 54% would have voted for Romney. 70% thought the economy was poor or very poor whereas 30% thought it was good or very good. 35% of the sample identified as Democrats, 34% were Republicans, and 30% were independents. The sample was also 53% male and 87% white.

(See Tables 3.1, 3.2, and Graph 3.3) The relationship between variables is statistically significant relationship which is apparent by the distribution of respondents in the crosstab; people who rate the economy positively are six times more likely to vote for Obama than Romney; people who rate the economy negatively are 2.5 times more likely to vote for Romney. While it is clear that there is a statistically significant relationship, ratings of the economy are not

a perfect predictor of voting; roughly a quarter of the sample views the economy as bad and prefers Obama or rates the economy as good and prefers Romney.

Table 3.1
Matrix of Economic Conditons and Voter Choice
(in number of respondents)

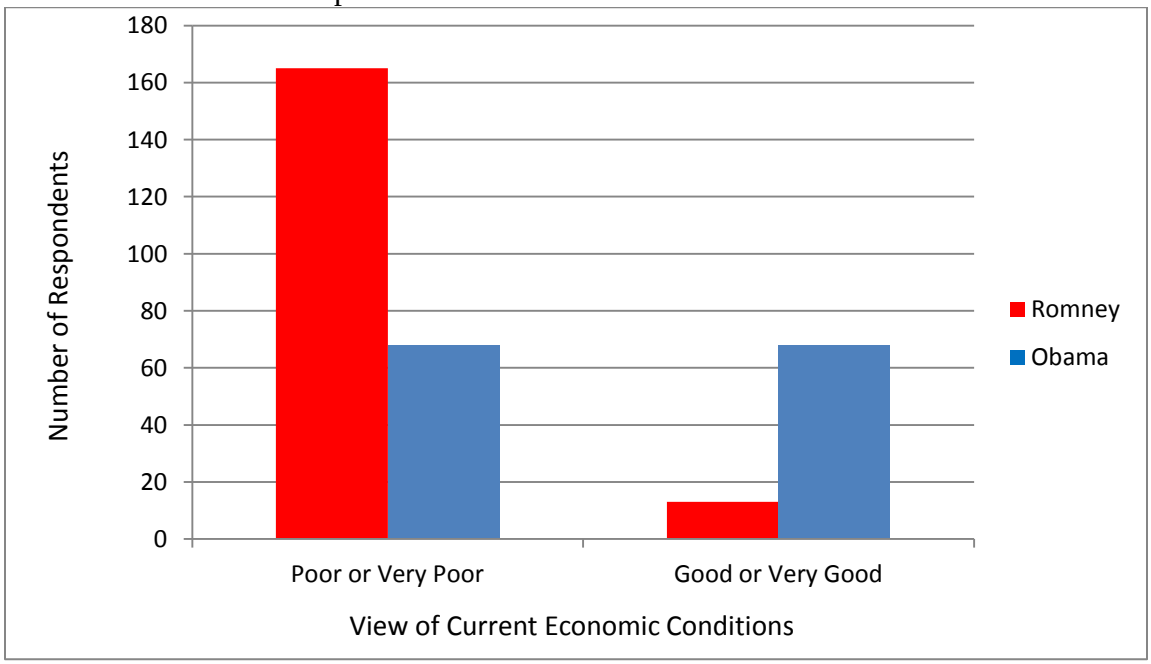
	Economic conditions are poor or very poor	Economic conditions are good or very good
Romney	165	13
Obama	68	86

Chi Squared=92.9611
P=0.000

Table 3.2
Matrix of Economic Conditons and Voter Choice
(in percentage of respondents)

	Economic conditions are poor or very poor	Economic conditions are good or very good
Romney	49.6	3.9
Obama	20.5	26

Graph 3.1
Bar Graph of Voter Choice and Economic Conditions



(See Tables 3.3, 3.4, and Graph 3.2) This cross tab shows that viewing Obama as the only candidate that the economy would improve under or Romney as the only candidate the economy

would improve under is 100% correlated with voting for that candidate; it is a deterministic relationship not a simple correlation. Any respondent, who believed that one candidate would improve the economy and the other would not, chose that candidate. Also, people who believed that the economy would improve under either candidate or neither candidate are significantly more likely to choose Obama. Those who said the economy would improve under both were three times more likely to choose Obama, and those that said neither would help the economy were twice as likely to choose Obama.

Table 3.3
Matrix of Views of the Economy and Voter Choice
(in number of respondents)

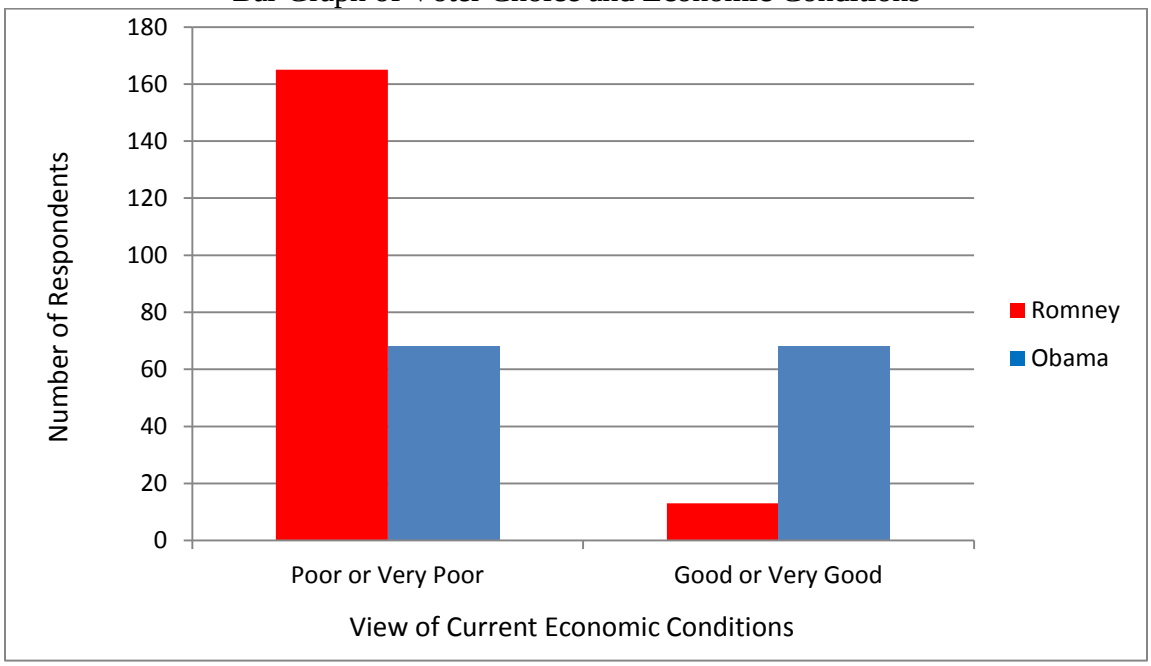
	The economy will only improve if OBAMA is elected	The economy will only improve if ROMNEY is elected	The economy will improve if EITHER Obama or Romney is elected)	The economy will NOT improve regardless of who is elected
Romney	0	158	12	8
Obama	97	0	38	19

Chi Squared=272.69
Probability=0.000

Table 3.4
Matrix of Views of the Economy and Voter Choice
(in percentage of respondents)

	The economy will only improve if OBAMA is elected	The economy will only improve if ROMNEY is elected	The economy will improve if EITHER Obama or Romney is elected)	The economy will NOT improve regardless of who is elected
Romney	0	47.6%	3.6%	2.4%
Obama	29.2%	0	11.4%	5.8%

Graph 3.2
Bar Graph of Voter Choice and Economic Conditions



Because viewing Obama or Romney as the only candidate that would help the economy is a deterministic variable, a logistic regression including those two variables is not possible; instead, I ran a logistic regression with age, income, education level, political ideology, gender, and a categorical variable for whether or not a person is white[16] or not as my controls. The variables that I am testing are a respondents' view of current economic conditions, a categorical variable for whether a respondent believes that neither candidate will help the economy, and a categorical variable for whether a respondent thought both candidates would help the economy.

(see Table 3.5) Running a logistic regression with these variables produces a statistically significant relationship. The regression explains about 55% of the variation in voter choice. Among the control variables, only ideology and the dummy variable for whether or not a person is white are statistically significant at the 95% confidence interval.

[16] Because the sample was small and predominantly white it was not possible to include all racial divisions, so I used white versus non-white as a variable in the regression.

All three of the explanatory variables are statistically significant and substantively significant. Controlling for all other variables, a person who views the economy positively is three times more likely to vote for Obama than someone who views it negatively; the probability of voting for Obama with a negative view of the economy is 0.26 and with a positive view it is 0.89.

Table 3.5
Table of Critical Values for Logistic Regression

	Coefficient	Standard Error
Economic Conditions	3.134***	0.459
The economy will improve if EITHER Obama or Romney is elected	1.6908**[17]	0.491
The economy will not improve REGARDLESS of who is elected	2.0042**[18]	0.615
White	-2.354***	0.581
Education Level	-0.108	0.139
Age	-0.0419	0.057
Income	-0.23	0.126
Ideology	1.8202***	0.258
Gender	-0.2751	0.37

*=Statistically Significant at 95% confidence interval
**=Statsitically Significant at the 99% confidence interval
***=Statsitically Signifiant at the 99.99% confidence interval
Pseudo R-Squared=0.5483

Analysis

This finding corresponds with previous research; despite Obama coming into office during an economic downturn and voters still blaming his predecessor, viewing the economy as poor or very poor increased the probability of voting against the incumbent president. Like local unemployment conditions, voters saw the president as responsible for the economy, so their opinions on economic conditions was correlated with their choice in the presidential election.

[17]Coefficient is compared to those respondents who thought one candidate and only that candidate would help the economy.
[18]Coefficient is compared to those respondents who thought one candidate and only that candidate would help the economy.

The other interesting finding is that there is an economic incumbency effect. This relationship is apparent in the crosstab where Obama did much better among respondents who thought neither candidate would affect the direction of the economy. Despite adding a number of controls in the regression including views of the economy, a person who thought both candidates would help the economy as opposed to thinking one candidate would help the economy is statistically more likely to choose Obama. Believing both candidates would help the economy roughly doubles the likelihood of voting for Obama; the probability of voting for Obama goes from 0.41 to 0.79. Likewise, a person who thought neither candidate would help the economy as opposed to thinking one candidate would help the economy is statistically more likely to vote for Obama; the increase in probability is again roughly two from 0.43 to 0.85. It almost appears as if there is a transaction cost in respondents' mind about changing the president, voting out the incumbent has a cost to it, so, if the president will not affect the direction of the economy or will have no greater effect than his opponent, respondents choose to stick with the guy they have.

Conclusion

I was correct in believing that if voters thought one candidate and only that candidate would help the economy were extremely likely to vote for that candidate, but this finding is unsurprising. My other assertion that subjective evaluations would not be correlated with voter choice would have been an original finding but was incorrect.

I made these claims based on my long-term retrospective voting theory. My theory stated that voters' views of the current economy were not correlated with choice. The reason was that voters were considering an extended period of time, and subjective views of the current state of the economy failed to account for who voters blamed. Voting is based on who is responsible for the economic situation, and when voters are considering both the incumbent and the predecessor,

a question about the economy's state would fail to account for who was responsible. I also argued that since the election was focused on the economy, voters had to have some reason to choose one candidate or the other. I believed that voters made a choice based on who they believed would be better for the future, so the question that asked about the candidates' effect on the future of the economy would be correlated with voter choice. So where does my theory stand?

Chapter 4

My theory did not hold up well under testing. After first examining the existing literature on retrospective voting which overwhelmingly agreed that economic factors are correlated with voting, I proposed that this was not true in 2012. I came to believe this after watching election returns and reading exit polls that showed voters dissatisfied with the economy but reelecting the incumbent. I created a theory called long-term retrospective voting which was designed to explain how voters could vote for the incumbent despite being dissatisfied with the economy. The reason, in my mind, was that they were considering economic factors that predated the incumbent including the performance of his opponent's party when in power.

The 2008 election that swept Obama into power occurred during one of the worst economic crises in US history. At the end of his term, President Bush recorded the lowest approval rating since Gallup started tracking (CBSNews 2009) and was ranked as the third worse president of all time in a poll of experts conducted by Siena College Research Institute (Thomas 2010). Because of Bush's historically bad presidency, it still weighed on voters' minds in 2012 when they were deciding whether or not to hand power back to the Republican Party. In these circumstances, I believed current economic conditions would not be important because voters did not agree who was responsible for the struggling economy. Based on the theory, I designed two tests: one at the county level and one at the individual level.

At the county level, I tested the correlation between the change in Obama's vote share and the change in unemployment during his first four years in office, and I repeated the same analysis for Bill Clinton and George W. Bush's reelections to show that the 2012 election was exceptional. I had three hypotheses: there would be no relationship between the variables for Obama's reelection; there would be a negative relationship for Clinton's reelections; and there

would be a negative relationship for Bush's reelection. I was wrong on two of the three; Obama had a negative relationship, and Bush had no relationship. The likely explanation as to why economic conditions did not matter in 2004 is that the election revolved around foreign policy. For the Obama analysis, I took some measure of confirmation for my theory in the fact that the relationship between the economic conditions and voting were much weaker for Obama than Clinton but had to reject my hypothesis.

I next tested my theory at the individual level using the last CNN poll before the election which asked questions both about the current state of the economy and the future of the economy. My hypothesis was that the current economic conditions question would not be correlated with voter choice, but who voters believed would help the economy would be correlated with voting. The analysis of the poll showed that who voters believed would help the economy going forward was not only relevant but a determinant variable among people who thought that the economy would improve under one candidate and only under that candidate. However, voters' opinions of current economic conditions were also substantively and statistically significant.

When Morris Fiorina's original proposed his model of retrospective voting in 1978, he found almost no proof for the theory. He laid out his theory for the world that voter choice was a decision about the incumbents' performance and whether it had been satisfactory or not (Fiorina 1978, 429-430). He pointed to economic conditions as the most important and influential factor in voting, and then designed a test of his theory using survey data. However, his test did not provide persuasive evidence; he found no evidence for retrospective voting in midterm elections, scant evidence in Congressional elections, and some evidence for retrospective voting in presidential elections (Fiorina 1978, 430-438). He ends his paper, "To conclude a research report

with a call for further study has become a platitude. But given the ambiguity in which this study ends, there is no other way to conclude" (442). Despite not finding a relationship in the very paper he proposed the theory, Fiorina stuck by his theory and published a book on the theory three years later that led to the theory becoming established in political science.

So what about my theory? Do I accept it? Do I stick by it like Fiorina and want more research? or do I reject it? I am rejecting it in the way I originally formulated it. Based on the evidence, it is impossible for me to say that economic factors did not influence voting in 2012. This is in and of itself and important addition to the political science literature on retrospective voting. This is the first retrospective voting test that I am aware of that chose to look at one election based on the idea that if ever there was election where retrospective voting did not occur, this would be the election. In 2012, current economic conditions mattered and affected voting in precisely the way Fiorina would have predicted. Despite blame still being on former President George W. Bush, the unemployment rate at the county level was negatively correlated with voting for Obama, and a worse subjective view of the economy increased the likelihood someone would vote against the incumbent. After studying this election, it is hard for me to imagine an election focused on the economy where retrospective voting would not occur.

However, I refuse to completely repudiate my theory despite the relevance of short-term retrospective voting in 2012. Rather, I want to modify my theory; short-term economic factors still play a role, but in some elections the electorate's memory is longer than others. In these elections, the electorate considers not just the role of the incumbent but also the role of its predecessor to reach a voting decision. Like in the theory I proposed at the beginning, voters in weigh both the incumbent's performance, their predecessor's performance, punish and reward failures and successes.

The first way I would like to test this theory is by using the 2012 ANES data. They specifically asked who voters blamed for the economy, and I would like to test its relationship with voter choice. Would this be the most significant factor in voting? What would controlling for blame do to the relationship between voter choice and subjective views of the economy?

I also want to test my theory longitudinally and see if it holds. So the next question is when would long-term retrospective voting occur? Looking at the Great Recession and Bush's approval rating, it seems to me that long-term retrospective is most likely to occur when the predecessor, the administration before the incumbent party took over, was unusually unpopular especially if there was a major crisis.

Using ANES data, I would test the correlation between a predecessor's final approval ratings and the number of people who said they were voting against the non-incumbent party four years later. I would test this trend on elections when there was an incumbent running whose party had been in power for one term, so that would be the 1956, 1964, 1972, 1980, 1984, 1996, 2004, and 2012 presidential elections. The worse the predecessor administration, the more likely voters would be long-term retrospective.

While the tests did not support my theory and I had to modify it, I think long-term retrospective voting is still an important theory. Depending on the circumstances, the electorate's may make voting decisions based on economic conditions and government performance going back an extended period of time, and, because of this, the effect of a bad economy may be mitigated by voters blaming the non-incumbent. In predicting the effect of economic factors on future elections, I believe it is important to consider whether the electorate will be short-term or long-term retrospective.

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