THE DYNAMIC NATURE OF ELECTORAL EXPECTATIONS

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ABSTRACT

Expectations are an important part of our understanding of presidential primaries. Whether we look at expectations in terms of how they drive momentum for some candidates, or as a component of expected utility in the individual decisions of primary voters, the chances of a candidate winning either the party nomination (viability) or the general election (electability) are key variables in understanding their success. Viability and electability are influenced over a long period of time leading up to the primaries, and continue to develop throughout the primary season. By adopting a theory of rational expectations, I look at how expectations change in reaction to information that is made available to voters. Using expectations data from the 2000 National Annenberg Election Study along with data on media coverage and campaign finance in the 2000 presidential nomination process, I show that expectations about the candidates' chances change in response to changes in the information provided by the candidates and the media. In contests involving well-known candidates, voters act rationally by using this outside information to inform their expectations of the candidates' chances of winning. In contests involving only lesser-known candidates, voters do not act rationally, and only base their expectations on past values of their expectations for these candidates. This dissertation provides new insights into how expectations change over the course of a primary campaign, and gives a better understanding of these important variables.

For Mary.

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CHAPTER 1

INTRODUCTION

Expectations are an essential part of how people make judgments. Whether people are evaluating the performance of the economy or the performance of a sports team, expectations can weigh heavily on how success or failure is ultimately viewed. If a college's football team is expected to win the national championship, and they fail to even beat their closest rival or win their conference, then the team will be roundly criticized for not meeting the heightened expectations of their fans. If, however, the expectations are lower at the start of the season, failing to win the conference will be less important in evaluations of the team performance, so long as the team is competitive.

Evaluations of candidates for political office are also at least somewhat dependent on expectations. Some candidates are expected to perform better than other candidates, whether it is because they are well-known incumbents, well-financed challengers, celebrities, or former athletes. How these candidates then perform in the actual election season will be compared with the expectations set for them. Candidates that gain strength in the polls despite low expectations can see increased interest in their candidacies, even if their polling numbers are still well below their opponent's. And candidates who are expected to do well but do not will be roundly criticized for not living up to their potential.

Comparing expectations to ultimate performance is not the only role for expectations. Candidates are constantly evaluated by voters and the media, and expectations about performance can be an important part of those evaluations. If a candidate is performing well compared to their expectations, then some voters might begin to evaluate that candidate more favorably, and may even jump on the bandwagon to support that candidate. Conversely, candidates whose electoral chances are fading may see additional voters defect to a more successful candidate. As a result, expectations can play a crucial role in determining the level of support for a given candidate.

Given the important role that expectations can play in the electoral setting, it is surprising that relatively few studies have been applied to finding the source of expectations or establishing a strong theory for how and why they change over the course of a campaign. While electoral expectations have been somewhat ignored, with some exceptions, expectations of other types have seen greater study.

In this dissertation, I apply the theory of rational expectations to expectations in the presidential nomination campaigns of the 2000 election. Using the National Annenberg Election Survey from that year, I use both cross-sectional and time-series analyses to show support for this theory. In applying this theory, I argue that voters gain information about candidates and their chances at winning from two main sources: the media and the candidates themselves. By incorporating this information with existing levels of expectations, voters are able to make rational judgments about what the chances are of each candidate winning their party nomination and the general election.

1.1 Rational Expectations

Individual expectations about the future performance of the economy have been a source of great interest among economists for quite some time. How the economy is expected to perform has an impact on a variety of topics, such as consumer confidence, which then translates into real consumer behavior. As a result, economists have sought to explain how and why expectations form and how and why they change over time.

One theory that economists have used to explain expectations is the theory of rational expectations (Muth 1961). The theory of rational expectations argues that people use all available information to form their expectations of some phenomena. In more technical language, the theory states that expectations of Y are influenced by the past performance of Y plus the information that people have about X, a related variable or set of variables. For example, when forming expectations about future economic performance, a person might use information about how the economy has performed recently, as well as information about how a Republican administration affects the economy, plus any other information that might be available to the person forming the expectation. This results in the expectation being formed rationally on the basis of using all information available to the person.

Why is this rational? If X and Y are related, then it is rational to use information about X to help form some expectation about Y. If people do not use information about X to form an expectation on Y, then they must rely solely on information about the past history of Y (Haller and Norpoth 1994). This would not be rational, as they would not be using all available information about the phenomenon Y.

The theory of rational expectations is not limited in its applicability. To form expectations about the performance a school's football team, a rational person would look at the performance of the team in the previous year, how many starters were lost in the off-season and who will be replacing them, and how strong the other teams in the school's conference and other conferences are going to be this year. Once all of this information is considered, a person can form a rational expectation about the likelihood of the school winning the national championship.

This pre-supposes, however, that all persons forming an expectation have access to the relevant information. This is not always the case, and economic expectations have been found to depend on the level of information that a person has about the phenomenon of interest and all other related phenomena (e.g. Krause and Granato, 1998; Duch, Palmer and Anderson, 2000). This is just as true in the electoral arena. Voters, in forming their expectations, must have access to other information about the candidates. Thus, candidates who have very low visibility are less likely to have voters making rational expectations about their chances. Voters will be much more likely to form rational expectations about well-known candidates who are highly visible, as information will be more readily available about these candidates.

In U.S. politics, the role of expectations in influencing vote choice is much greater in primary elections than in general elections. Primary elections are often low-information affairs, with one or more relatively unknown candidates running for their party's nomination. In many primaries, at the congressional level down to the lowest levels of local government, a large number of voters are often unaware that a primary is even going to occur, making it doubly difficult for these unknown candidates to win the

support of the voters in their party. Judgments about the candidates for nomination often come down to name-recognition and minimal information about the ability of the candidates to perform well in the general election. There may also be a bandwagon effect, with primary voters supporting the candidate that appears to be most likely to win the nomination. As a result, expectations can play an important role in determining who the nominees will ultimately be.

In limited-information races, such as primaries, expectations about a candidate's prospects can play an important role in the voters' ultimate decision-making process. Voters often know little about candidates other than any well-known front-runner(s). As a result, voters turn to their expectations about the prospects of these candidates in order to evaluate them.

There are two types of expectations that factor into the voter's evaluations—the likelihood of a candidate winning their party's nomination (viability), and the likelihood of the candidate winning the general election (electability). Scholars have disagreed as to which of these expectations leads most directly to the voting decision, but it is relatively clear that these expectations do play *some* role in voter decision-making in primary elections (Abramowitz 1989; Abramson et al. 1992; Bartels 1987, 1988; Stone, Rapoport, and Abramowitz 1992; Stone, Rapoport, and Atkeson 1995).

Given this relationship, it is relatively surprising that scholars have devoted fairly little attention to how these expectations are formed or why they change. If we seek to fully understand the entire electoral process, then it is important for us to focus not only on the general election and the factors which influence the final outcome, but also on the factors that influence who the candidates for the general election will be. If expectations

are an important part of this process, then we should focus on how voters form their expectations, and what influences these expectations to change over the course of a nominating campaign.

To address the question of what influences voter assessments of viability and electability, we can adopt a rational expectations framework. Voters are at least vaguely aware of candidates in a primary election. If they are not familiar with the candidate, then that in and of itself is information about that candidate, as the voter will be less likely to identify that candidate as a potential winner of the nomination or general election. Some candidates, however, are well-known amongst the voters, and the voters can use information about those candidates to construct expectations about their performance. Additional information about the candidates can be provided from two sources—the candidates themselves and the news media.

Expectations carry over from one time point to another. Initial expectations are important, but those initial expectations are likely to change over the course of a nominating campaign (Bartels 1987). Thus, expectations at any given time point are influenced, in part, by previous levels of expectations in addition to other information about the candidates. Just because a candidate wins a debate, the expectation of the likelihood of that candidate winning the nomination will not jump from zero to 100 overnight. The previous expectation level will have some moderating effect on the debate victory. We can therefore state that an expectation at any given time point is a function of prior expectations and additional information that is provided over the course of a campaign. This model of electoral expectations fits the framework of rational expectations.

Voters are likely to have some information about the candidates' potential performance. This information can come from pre-election polls, prior elections, or references to a candidate as a "front-runner" or "long-shot" to win the nomination. Any of these sources is a valid source of information about prior expectations of the candidate's potential performance, the first component of rational expectations.

The second part of rational expectations is information related to potential performance, separate from prior expectations. Additional information that the voters can use to form these expectations can be campaign materials directly provided by the candidates, TV, print, or radio commercials, websites, and campaign events. Alternately, voters can rely on gathering information from the media, be it print, TV, radio, or internet media sources. The first set of information sources stems from the candidates themselves, and is more direct information. The second set of information sources comes from the media, and is a more filtered source of information about the candidates, which may be more likely to include information about the horse-race and candidate performance.

These encompass, in a very broad way, the types and sources of information that voters can use to evaluate the chances of a candidate in a given primary campaign. We can therefore formulate a theory of electoral expectations in primary campaigns by saying that voter assessments of candidate viability and electability are influenced by prior levels of expectations and some combination of information from the media and the candidates themselves. Voters are expected to use all of this information to form their expectations.

This is a relatively simple, straightforward theory that offers considerable power in explaining how and why expectations change over the course of a campaign. Prior

research has found that expectations change over the course of a nominating campaign (Bartels 1987), but has not focused as clearly on why those changes occur. By incorporating a rational expectations theory, we can test to see why these important variables change over the course of a campaign.

1.2 Influences on Electoral Expectations

The existing literature on electoral expectations themselves and their sources is under-developed. Most of the work investigating electoral expectations focuses on how they affect the candidate preferences of voters, rather than how they are themselves formed or changed. Thus the origins of the expectations themselves are largely ignored in favor of looking only at the end result of the process.

Perhaps the most important piece of research pertaining to expectations in the electoral arena is Larry Bartels' work on the 1976, 1980, and 1984 presidential primaries (Bartels 1987, 1988). In these works, Bartels tests the idea that expectations are of great importance, and candidates that exceed expectations for their campaigns can build greater support for their candidacies (i.e., build momentum). However, Bartels does little to find out just how these expectation levels are set to begin with, or how or why they change over time. If we do not know how the expectations are formed and influenced over the course of a campaign, how are we able to determine whether or not candidates are really performing better than we should expect them to?

A more important contribution to this research is Bartels' treatment of expectations as dynamic variables that change over time. If expectations do not change over time, then they would be relatively uninteresting, and would likely have very little

explanatory power in helping us to understand how voter preferences change over the course of a campaign. If expectations vary over time, however, they can help to explain how voter preferences change over time.

A particular problem with the form of momentum that Bartels looks at is that only challengers can seem to generate momentum. Front-runners often have a high level of expectations already, and thus cannot build up excitement over the course of a nominating campaign merely by winning the primaries they were supposed to win in the first place. As a result, there may be a differing impact of expectations for front-runners and challengers. The expectations for front-runners are likely to be very high, and the impact of various campaign events will do little to shake those expectations, especially viability, barring any major negative developments. However, for challengers the expectations may not be clearly known. Much of the population will have less information about these outsiders, and may be more influenced by various campaign events in their evaluations of these candidates' chances. As a result, both viability and electability for challengers may be more directly influenced by various campaign activities.

The media can have a very important impact on presidential primaries, by way of transmitting information about the candidates to the voters. This information can consist of issue stands, which may not be important to most voters (Gopoian 1982; Marshall 1984; Norrander 1986), or information about which candidates are expected to do well or are doing well (Bartels 1988). Since the media focuses largely on the horse-race, rather than substantive issues, especially in nomination campaigns, it is likely that media

attention will have a direct, very important effect on perceptions of candidate chances (Brady and Johnston 1987; Lichter, Amundson, and Noyes 1988).

Campaign finance can also have an important influence on the success of a candidate in a presidential primary. Campaign donations may be linked to the success of a candidate, or how successful that candidate might be, especially if donors act strategically in deciding who to donate to (Mutz 1995). Candidate spending is also a likely influence on how successful a candidate can be in a primary (Haynes, Gurian, and Nichols 1997). In each case, campaign spending could have a direct impact on the success of the candidates, as well as an indirect impact by influencing perceptions of the candidates' chances. A candidate with more money could be perceived as being better able to last a long primary fight, thus increasing his chances to win the nomination.

Candidates who raise more money are also able to spend more money. By providing information directly to the voters, candidates are able to boost their name-recognition, explain what their policy stands are, and make themselves visible enough so that voters will actually know who they are. Without adequate financing, candidates cannot overcome any obstacles posed by low name-recognition, strong opponents, and limited media coverage. Most candidates will find it highly difficult to be successful if they are unable to run any television or radio advertisements. Conversely, candidates with large amounts of money can buy a great deal of advertising, making themselves well-known to the public and building up the image of a successful candidate.

Candidate success may be a self-fulfilling prophecy. Candidates that are expected to do well, and then do well early on, can then translate that success into further success. So a candidate who is expected win a party nomination can further strengthen his

campaign simply by winning Iowa and New Hampshire, and appearing to be the candidate that everyone thought he would be. Somewhat similarly, candidates who are not expected to do well, but then exceed those expectations by performing well, can build some level of momentum for their campaigns.

All of these factors have some influence on the ultimate success or failure of candidates in nominating campaigns. Much of the research in the field has focused on expectations as being the most direct influence on candidate preferences, but little research has been done to see just how these expectations are changed themselves. Expectations are not static variables that are set in stone at the start of the campaign. They are dynamic variables that are in a constant state of change throughout the course of a campaign. As such, it is important to understand how these expectations vary and why. A rational expectations framework can serve as the first step in identifying how and why these expectations change over the course of a campaign.

1.3 Hypotheses

Given the theory of rational expectations, we should expect to see certain patterns occur within a given nomination campaign. There are differing levels of information available about each candidate in a campaign. Some candidates are celebrities, while others are unknown retired school principals. Voters will know at least the names of the celebrities, even if they know little else about them; however, voters are unlikely to know anything about retired school principals who have never held elected office. As a result, we might expect that well-known candidates are more likely to have sufficient

information available about them for voters to form rational expectations about their electoral chances.

H1: Voters will be more likely to form rational expectations of well-known candidates than of lesser-known or unknown candidates.

A result of this hypothesis might be that voters are more aware of well-known candidates, and their expectations are much more solid for these candidates. As a result, these candidates will perform better in primary elections, as voters will ignore anyone they cannot form a solid expectation about. The outcome then leads into the well-recognized pattern of well-known candidates being more likely to win election.

To test the rational expectations theory itself, we should find that voters incorporate additional available information besides prior expectations. One source of additional information comes from the media. The other source of additional information comes directly from the candidate herself. One measure of the ability of a candidate to provide this information is campaign finance. A candidate who has a large amount of money to spend can provide a lot of information to the voters. And a candidate who has little campaign money coming in is not going to be able to get their message out.

H2: Viability will be best explained by previous assessments of viability and some combination of media coverage and campaign finances.

H3: Electability will be best explained by previous assessments of electability and some combination of media coverage and campaign finances.

These three hypotheses are relatively simple statements that will allow for direct tests of the rational expectations theory of electoral expectations. A problem with these hypotheses, however, is that expectations of each candidate are not always separate.

When there are two candidates in a nominating campaign, the expectations of one candidate may have some influence on the expectations of the other candidate. If one of those candidates is well-known, and the other candidate is not, then the expectations of the lesser-known candidate will be affected by the expectations of the well-known candidate. Thus, we might expect that the expectations of a lesser-known candidate may still show some signs of rational expectations when there is also a well-known candidate in the race.

We can characterize this as weak rational expectations. Weak rational expectations occur when voters are unable to incorporate sufficient information about candidates, but are still, on average, able to make correct predictions about their chances (see Krause and Granato, 1998 for a discussion and test of weak rational expectations). This is due to the fact that voters have information about the well-known candidate, and would expect her to do well, but the lesser-known candidate is enough of a wildcard that voters are unable to incorporate information about the chances of that candidate, thus affecting the expectations of both the well-known and lesser-known candidates. Voters will still be mostly correct in predicting that the well-known candidate has a better chance of winning, but outside information will be less important in making that prediction.

When there are no well-known candidates in the race, then the expectations of the candidates may not be formed rationally at all. If voters are completely uninformed about the candidates, and are unable to gain information about them, then they will have no basis on which to form their expectations, and as a result their expectations will not be rational, and will be somewhat random in their formation. These types of expectations, and when we would expect to find them, are summarized in Table 1.1.

Table 1.1 About Here

1.4 Conclusion

Expectations play an important role in determining support in a primary election. The goal of this research is to find out how and why these expectations change over time. Is it simply that the best known candidates are always expected to do better? Or are front runners able to garner attention from the media and increased campaign donations simply because they *are* the front-runners?

What are the broader implications for this research? If we find that expectations are primarily influenced by campaign finances, then we have found further evidence for the considerable influence of money in campaign politics. If, however, we find that media coverage is a more important influence on expectations, then we might argue that voters are not making basing their expectations on ideology or policy issues, but are instead basing their expectations on coverage of the horse-race. Thus the actual content of the campaigns may be less important than simply who is ahead in the polls. Additionally, this might mean that lesser-known, under-financed candidates may be able to gain more respectability or support simply by wooing the news media (such as John McCain in 2000).

Or we may find that both media and campaign finance are important influences on electoral expectations. In this case, we might feel somewhat better about democracy—voters would be found to use all available information in making sound assessments of a candidate's chances.

All of these findings have a potentially important impact on the understanding of campaigns. As presidential nominating seasons become shorter and shorter, initial expectations become more and more important. If voters require large amounts of information about a candidate in order to make a solid assessment, then we may find that only established, well-known candidates will ever have a chance to win, and lesser-known candidates will struggle even more to gain the attention of the news media, campaign donors, and ultimately the voters themselves.

In the next chapter, I analyze the previous research into electoral and rational expectations. Research into presidential primaries has shown that expectations are important factors in explaining voting behavior in these elections. I also look at alternative explanations of voting decisions in presidential primaries. In looking at expectations as an influence on primary voting behavior, I show that while expectations have been identified as potentially important variables in explaining the vote choice, previous research has not adequately explained how and why they change over the course of a campaign. I also look at literature pertaining to campaign finance and media coverage in primary elections and their effects on how voters view candidate chances. I conclude with a discussion of prior research on rational expectations.

In chapter three, I discuss the sources of the data I use and how they were collected. The primary data source is the National Annenberg Election Study of 2000, with additional data on campaign finance coming from the Federal Election Commission and media data collected from the *New York Times*. I also discuss the time series methodologies that I apply in later chapters.

Chapter four is devoted to a cross-sectional analysis of expectations and vote choice. Three vote-choice models are presented, one containing expectations, the second without expectations but with attitudinal and demographic variables, and a third containing both sets of variables. This allows for an assessment of the importance of expectations on individual-level behavior. This is an important first step in establishing the empirical importance of expectations in primary elections, as it shows that the contribution of expectations to explaining vote preference outweighs the contribution of more traditional factors.

Chapter five looks at the relation of vote preferences and expectations over time. Using time-series methods, I estimate the order of integration for each series and then seek to determine whether changes in expectations precede changes in levels of vote preference, or vice versa. By doing so, I can show whether expectations are important phenomena to be studied by themselves, or if they are the result of a projection effect resulting from voter preferences. I find that the small evidence for projection effects is overwhelmed by the strong evidence for expectations influencing vote preferences.

In chapter six, I present a full model of rational electoral expectations in the 2000 presidential primaries. I bring expectations, media coverage, and campaign finance together into a time-series model, and show how these variables are related to each other, testing the theory of rational expectations. I present models for the Democratic race between Al Gore and Bill Bradley and the Republican race between George W. Bush and John McCain, as well as the hypothetical general election match-ups between party candidates. I find that the theory of rational electoral expectations is well supported by data on the 2000 presidential nominations.

I conclude with chapter seven and a discussion of the importance of expectations in an increasingly front-loaded presidential primary calendar. I also address several questions that stem from the findings of the previous chapters. What are the implications for rational expectations as the primary season continues to shorten? What role do media and campaign finance have in determining the eventual nominees? These questions are of great importance to candidates and voters alike as they seek to determine who will ultimately represent their parties in the general election.

	Well-known candidate	**Not-well-known candidate**
Well-known candidate	Strong rational expectations	Weak rational expectations
Not-well-known candidate	Weak rational expectations	Adaptive expectations

Table 1.1 Types of rational expectations for two-candidate races with well-known and not-well-known candidates

CHAPTER 2

ELECTORAL EXPECTATIONS, PRIMARY ELECTIONS, AND RATIONAL EXPECTATIONS

Expectations in elections can play an important role in how candidates are viewed by the public. They can give a sense of whether or not is rational to vote for a candidate in a multi-candidate election, where only two candidates may have a realistic chance to win the election. Without expectations of the candidates' chances, voters would not be able to make strategic decisions about who to vote for in these elections. Expectations can also be important by providing information about which candidate may be the most likely to ultimately achieve a specific goal. If two candidates in a primary election both favor a partial-birth abortion ban, and the voter is a single-issue voter determined to see a ban enacted, then the voter would want to know which of the two candidates would be most likely to win the general election and thus get the ban. Without expectations of the candidates' chances in the general election, the voter could conceivably vote for the candidate least likely to get the ban enacted, thus preventing the voter's ultimate goal.

Past research has found a role for expectations in voting behavior, but only under certain circumstances. In U.S. elections, it is relatively rare to have more than two major candidates in a general election, so expectations are not considered to be of great

importance in most general elections.[1] In primary elections, however, there are often multiple candidates running for their party's nomination, and expectations can play an important role in how voters in these elections make their decisions (Stone 1982; Stone and Abramowitz 1983; Bartels 1988; Abramowitz 1987, 1989; Brady and Johnston 1987; Abramson et al. 1992; Stone, Rapoport, and Abramowitz 1992; Stone, Rapoport, and Atkeson 1995; Norrander 1996). The electability of a candidate is often of utmost concern to primary voters, as it is usually the case that anyone from one party is preferable to a voter than anyone from the other party. And in multi-candidate races, there are often only two viable candidates that actually have a chance to win the nomination, making a vote for any of the non-viable candidates essentially irrational.

This chapter will review the existing literature on expectations and their linkages to primary elections in the United States. By doing so, I show that expectations are an important component of how people decide how to vote in primary elections, and that expectations are an important concept on their own to study. While the previous literature has done a good job of showing that expectations are important, it has left open the question of how expectations themselves are influenced. I provide insight into that question by reviewing the theory of rational expectations, a theory that has its roots in economics but provides a sound basis for understanding how expectations in political campaigns are influenced. I then conclude by looking at some forms of information that can be used to apply the theory of rational expectations to electoral politics.

[1] In electoral districts where there are run-offs between the top two finishers in a general election, as in Louisiana, there may be more reason to pay attention to expectations, but run-offs in general elections are more an exception than the rule. Also, see Gimpel and Harvey (1997) for an example of how expectations might matter in a general election.

This dissertation focuses on presidential nominations in order to study all nomination campaigns. The reason for this is two-fold: first, most of the research into nominations that has already been done has looked at the presidential level. Therefore, to best approach the study of nominations, I will build off of this prior research on presidential nominations, and in the last chapter I will point out avenues of research into lower-level nominations that are opened by the findings of this dissertation. The second reason to focus on the presidential level is a more mundane reason: the data exists for that level, whereas very little data has been collected on lower-level nominations. Luckily, with the addition of the 2000 National Annenberg Election Survey, good data now exists for presidential nominations, and this dissertation seeks to utilize that data to help further our understanding of voting behavior in nominations.

2.1 Primary Elections

The study of elections in American politics has long been focused on the general election. And for good reason: the general election is where the candidate that ultimately serves in office and makes policy decisions is selected. Far more voters participate in general elections, more media coverage is granted, more campaign money is spent and more studies are conducted during the general election than during primary elections.

But primary elections are important to study as well. Primaries are where the candidates for the general election are chosen, and setting up the choices for the general election can be extremely important (Matthews 1973; Keech and Matthews 1976). Additionally, different people may participate in primary elections (Geer 1988;

Rothenberg and Brody 1988; Norrander 1991), and may have very different reasons for voting the way that they do.

In general elections, voting behavior is often explained by a set of factors that include party identification, ideology, issues, and candidate evaluations, but these factors may not work as well in explaining voting behavior in primary elections (Stone, Rapoport, and Atkeson 1995). This is due to the problem that candidates for a party's nomination are often very similar—they are members of the same party, after all, and are likely members of that party for good reasons, such as shared ideologies and issue positions. So the only main factor that could potentially carry over from the study of voting behavior in the general election to the study of voting behavior in nomination campaigns is the evaluation of candidates.

Party identification

One of the strongest correlates of vote choice in general elections is that of party identification. The variable's prominence in voting behavior research began with the publication of *The American Voter* (Campbell et al. 1960), when the authors developed a model of vote choice that emphasized three things: a voter's attachment to a party, a voter's orientation toward the issues, and a voter's orientation toward the candidates. Despite an apparent decline in party voting following the early Michigan studies, more recent vote choice models have still found party identification to be an important determinant of the vote for general elections (Bartels 2000).

Party identification is not without its controversies, however. For example, the measurement of party identification has been the subject of numerous debates (Petrocik

1974; Weisberg 1980; Alvarez 1990; Miller 1991; Keith et al. 1992). So too has the stability of partisanship over time (Dreyer 1973; Fiorina 1981; Allsop and Weisberg 1988; Lockerbie 1989; MacKuen, Erikson, and Stimson 1989; Achen 1992; Box-Steffensmeier and Smith 1996, 1998; Green, Palmquist, and Schickler 1998). Regardless of these controversies, party identification is still treated as an important factor, whether it does change over the short term in response to political events, if it is measured appropriately with a seven-point or three-point scale, or if it is merely a filter through which voters see the political world.

Where party identification seemingly loses its importance in voting behavior research is when it is applied to nominations. Past research on presidential nominations has shown a rather healthy skepticism of the role that party identification plays in the decisions of voters in nomination campaigns. Theoretically, at least, all candidates and voters involved are of the same party, so it seems as though party identification should have very little influence over how voters judge the candidates, and this is what a number of scholars have claimed (for example, Wattier 1983b; Norrander 1986; Abramson et al. 1992; Williams et al. 1976; Brams 1978; Gopoian 1982; Aldrich and Alvarez 1994). Indeed, party identification is often left out of multivariate models of individual vote-choice in primary elections (Aldrich and Alvarez 1994; Brady and Johnston 1987; Marshall 1984; Monardi 1994).

Despite this, Norrander (1996) notes that there has been some support for the idea that strength of partisanship can influence voter decision-making in nomination campaigns. For example, Bartels (1987) finds that strong Democrats on average gave more favorable evaluations to Walter Mondale in the 1984 Democratic nomination

campaign than did weak Democrats, who were themselves slightly more favorable to Mondale than Democratic leaners. Stone, Rapoport and Atkeson (1995) show that party affiliation can be used, in conjunction with viability and visibility, as a way for voters to narrow down their choices in a multi-candidate contest. And Mayer (2003) also finds that party affiliation can correlate with the vote, with self-identified partisans more likely to support the "major" candidates, while independents are more likely to support the more minor candidate(s). On the whole, however, the majority of research into the determinants of vote choice in presidential nominations seems to come to the conclusion that party identification plays little, if any, role in voter decision-making.

Ideology and Issues

The second component of the *American Voter* theory of voting behavior was that of a voter's orientation to the issues. Of this, we can look at two things: the long-term aspect and the shorter-term aspect. The long-term aspect of the voter's orientation to the issues is made up of their political ideology. The shorter-term aspect is their position on individual issues. Ideology may influence issue positions, or voters may claim an ideology only after they consider their positions on the various issues and seeing where they lie on the liberal-conservative spectrum. Regardless of which is correct, the role of issues and ideology in voter decision-making in general elections is not without its own controversies.

One problem with arguing for ideology to be included in any vote-choice model, be it for the general election or the nomination, is that some voters may not think in the ideological terms that political scientists would like them to (Campbell et al. 1960;

Converse 1964). The *American Voter* researchers found that few voters actually thought in ideological terms, while Converse found that there was little correlation between voter opinions on different issues, and little correlation over time in their opinions as well. Later research has found more optimistic assessments of voter sophistication, with ideological sophistication appearing to have increased over time, especially since the 1950s (Nie, Verba and Petrocik 1976).

Regardless of the importance of ideology in the general election, however, its role in nomination campaigns is more complicated. Norrander (1996) cites three potential reasons that issues and ideology would play only a limited role in nomination campaigns: first, there is often very little ideological difference between candidates of the same party. They are members of the same party, and likely share similar ideologies, otherwise they would be in different parties. Second, the number and type of candidates can affect the potential for ideological voting. In races with multiple candidates, the ideological spectrum is crowded, making it difficult for candidates to establish distinct ideological identities. When there are fewer candidates, however, there may be more potential for ideological voting, as they are better able to establish separate positions that no one else shares. Some candidates may also pursue strategies that do not focus on ideology or issues, but instead on group ties, such as Jesse Jackson's 1988 candidacy. The third reason Norrander identifies relates to the early research on ideology and voting: many primary voters have a hard time placing themselves or the candidates for the nomination on ideological scales. This claim is backed up by research by Geer (1989) and Marshall (1981), who find that primary voters have surprisingly low levels of political sophistication.

Whether or not ideology has a theoretically sound reason for being included in vote choice models for nominations, scholars have tested its role in their models, and found differing levels of support. For Marshall (1981, 1983a, 1984), Stone, Rapoport, and Atkeson (1995), ideology has very little value in predicting outcomes. Monardi (1994) finds slightly more support for a role for ideology, while Kenney and Rice (1992) find it to be second only to candidate qualities in terms of its importance, and Wattier (1983a) finds ideology to be the most important factor. Other studies are less clear, such as Bartels (1988) and Norrander (1986b), who find that ideology can be important in some races but not others. For example, Norrander finds it to be important in the Republican primaries of 1980, but not in the Democratic primaries.

The role of issues in voter decision-making has also long been questioned. The same research that criticized the role of ideology also extended to the role of issues. But more recent work has suggested that issues have become increasingly important (Abramowitz 1995; Alvarez and Nagler 1995; Miller and Shanks 1996; Lacy and Burden 1999; Smith, Radcliffe, and Kessel 1999).

In nomination campaigns, the role of issues is somewhat less clear. Again, there are several reasons why issues may not be important in these races. Candidates likely share similar positions, making it difficult for voters to distinguish between the candidates (Marshall 1983; Norrander 1986). However, there is a relationship between issues and voting in nominations that does seem to be important. Even if candidates share the same issue positions, they can often influence voters by stressing different issues than their opponent(s) do. And this is what Aldrich and Alvarez (1994) argue could be true. In the 2004 Democratic nomination campaign, Howard Dean was able to

make great headway early on by stressing his opposition to the war in Iraq, even though several other better-known candidates had the same position. They did not stress the issue early enough, however, and Dean, for a short time at least, was able to reap the rewards of emphasizing that issue.

Issues may matter differently for some candidates, or at different times. For example, Marshall (1983a) finds that issues matter more in the later stages of the campaign, once they have established their positions. Norrander (1986b, 1992) argues that issues are important when candidates stress the issues in the campaign (in an echo chamber effect). For others, the type of candidate can have an effect on whether or not issues are important. Bartels (1985) finds that issues are more important for better known candidates, who likely have issues positions that voters already know about, while lesser known challengers have a harder time establishing their issue positions. And candidates such as Pat Robertson may also have some special relationship to specific issues (Johnson, Tamney, and Burton 1989)—in Robertson's case, religious or value issues, or in the case of Howard Dean, the war in Iraq. In 2000, John McCain may have benefited from his position on campaign finance reform. But it may also be important to note that none of these candidates won their party nomination.

Finally, issues may also play a more indirect role in nomination decisions. A candidate that calls for a constitutional amendment outlawing abortion may find a great deal of support for that position among Republican nomination activists. However, that position is not likely to win the candidate the general election, and may adversely affect their chances for winning the White House. As a result, that issue position may cause some of the Republican voters to look elsewhere for a candidate that can actually win the

general election. This relationship is found by Kenney and Rice (1992), who find that issue positions can affect evaluations of candidate qualities, which then directly affect a voter's support of a candidate.

Candidate Evaluations

The third portion of the *American Voter* model of voting behavior is that of voter orientation to the candidates. How voters look at the candidates and judge them can be of great importance in their decision-making. Whether a candidate makes the mistake of looking wimpy riding around in a tank or screaming at his followers like he is at a monster truck rally, the perceptions that voters have of a candidate can directly influence their votes, especially when that perception is very negative.

In general elections, one way in which voters evaluate candidates is through the use of retrospective and prospective evaluations. In retrospective evaluations, voters look at how well the candidate (or party) has governed in the past, and makes a judgment based on that retrospective view (Key 1966; Fiorina 1981). Retrospective evaluations have been shown to be quite important in voter decision-making in general elections (Alvarez and Nagler 1995; Norpoth 1996; Nadeau and Lewis-Beck 2001), but their effect on voting in nomination campaigns is somewhat constrained. Since all the candidates for a party's nomination are of the same party, the voter cannot retrospectively evaluate how well Democrats have governed in the past as the basis of their evaluation. In nominations, retrospective evaluations are generally only likely to occur when an incumbent president is seeking re-election, and there have been relatively few of these

cases where the incumbent faced opposition for his party's nomination (see chapter three for a discussion of this point).

Retrospective evaluations may also occur when a vice-president seeks the nomination. Mattei and Weisberg (1994) find that retrospective evaluations of the Reagan administration affected vote choice in the 1988 Republican primaries, when then-vice-president Bush sought his party's nomination. Bush benefited from those who thought the economy had performed well under the Reagan administration and saw Bush as the continuation of that legacy. But this occasion, when a vice-president seeks to replace an outgoing president, has also happened rarely since the 1972 McGovern-Fraser reforms. In 1988, George Bush sought to replace Ronald Reagan, and in 2000, Al Gore sought to replace Bill Clinton. Thus we may find effects of retrospective evaluations on nominations in a few cases, but only in specific circumstances that do not appear to be common.

Simply looking to the past does not explain all voting behavior, however, even in general elections. Voters may also look to the future, and make prospective evaluations of how the candidates will perform in office. Such evaluations have also been found to be strong influences on voting decisions in general elections (e.g. Kuklinski and West 1981; Lewis-Beck 1988; MacKuen, Erikson, and Stimson 1992; Clarke and Stewart 1994). However, these studies often focus on the aggregate (such as MacKuen, Erikson, and Stimson 1992), but fall apart when we look at the individual level (Fiorina 1981). Work on individual level prospective evaluations is somewhat difficult, however, as expectations of things such as the economy's future performance are possibly endogenous to vote choice and who one thinks will win the election. Simply asking a

respondent, "Will Al Gore or George W. Bush do a better job of handling the economy?" will likely result in a very high correlation with who the voter supported in the election. As a result, many analyses of prospective voting have relied on aggregate evaluations of the economy (Lewis-Beck 1988; MacKuen, Erikson, and Stimson 1992; Nadeau and Lewis-Beck 2001), and have found considerable support for the claim of voting based on prospective evaluations.

In primary elections, prospective evaluations of the candidates are also very hard to separate out from vote preference. It is also hard for voters to even make these kinds of judgments about the candidates. If candidates for a party's nomination have relatively similar issue positions, how are voters to decide which candidate will govern best? These prospective evaluations will likely be based not on issue positions, as is the case for much of the prospective voting literature on general elections, but instead on some aspect of candidate affect, and how much a voter actually likes a candidate on some other dimension or quality, such as perceived leadership ability. They also will likely be influenced by whether or not the voter thinks that candidate has a chance at actually winning the general election. After all, if a candidate cannot ever win the White House, then their prospects for moving the economy or the nation in the right direction are quite slim.

What Else?

The three main components of the *American Voter* model of voting behavior in general elections do not seem to hold up well when applied to nomination campaigns. Partisanship is largely a non-issue, as all candidates are of the same party, though

stronger partisans may be more likely to support the establishment candidate. Issues and ideology are similarly problematic, as candidates generally take similar positions, and largely only differ in terms of which issues they stress. And candidate evaluations may be more related to some rather ambiguous affect toward the candidate, but are mediated by the chances of that candidate actually winning election. Each of these may have a small impact on voting decisions, but their overall influence is minimal. So what else can nomination voters use as a way to separate out the candidates from each other and make decisions about who should be the parties' nominees? The ultimate goal of voters in a nomination campaign is to pick the best candidate to represent the party in the general election. We therefore have to evaluate what it means to be the "best" candidate.

2.2 Electoral Expectations in Primaries

There are two ways in which voters could decide who the best candidate is. First, voters could decide that the best candidate is the candidate that best represents their views. We would therefore expect a large amount of issue and ideological voting. But we know that voters undertake very little such voting in primary campaigns. There must be another way for voters to determine who the best candidate is. Since it is likely that voters of one party will believe that any candidate of their party is preferable to any candidate of the other party (Stone, Rapoport, and Abramowitz 1992), voters could look at the likelihood of a candidate winning the general election. The candidate that has the best chance of winning in November would then be the best candidate for that party, and voters would adjust their decisions accordingly.

Thus expectations enter into the voting behavior of individuals in nomination campaigns. These expectations can take two forms: the chances of winning the primary (viability) or the chances of winning the general election (electability). These evaluations can be of considerable importance to how well a candidate ultimately performs in the primary election, and can greatly influence how a voter makes her decision about who the best candidate will be.

While electability is clearly important in evaluating who the best candidate is, it may not be as readily clear why viability is important in this process. Viability can best be thought of as a way for voters to reduce their cognitive effort by limiting their choice set (Stone, Rapoport, and Atkeson 1995). Especially in multi-candidate races, voters may have a difficult time learning information about the candidates for the party's nomination. As a result, voters will look to reduce the amount of effort they must undertake by narrowing down the list of candidates that they have to gain information about. They can do so by looking at which candidates are perceived to actually have a chance at winning the party nomination. Any candidates that are not viable in this regard can then be eliminated from the voter's information-gathering process. After all, a candidate that cannot win the party nomination cannot be the best candidate, as they will have no chance at winning the general election.

Expectations are under-studied in electoral politics. We know that they can have an important effect on voting behavior in primaries and some multi-party systems (Bartels 1988; Abramowitz 1989; Stone, Rapoport, and Abramowitz 1992; Abramson et al. 1992; Nadeau, Niemi, and Amato 1994; Stone, Rapoport, and Atkeson 1995; Norrander 1996). What we have done very little of is to look at how expectations change

over the course of a campaign. Bartels (1988) clearly establishes that expectations do change over time, that a candidate is not stuck at one level of viability or electability for the entire campaign period, but can change the perceptions of their chances. Abramowitz (1989) also finds that electability and viability change over the course of a nomination campaign, and Nadeau, Niemi, and Amato (1994) also find that expectations change over time in their study of British elections. Rothenberg and Brody (1988) point out that candidate viability changes much more over the course of nomination campaigns than in general elections.

None of these studies, however, fully explains how and why expectations change. They generally give a vague reference to expectations changing as a result of candidates performing better or worse than expected, but this does not provide a completely satisfying answer. What is the mechanism by which voters decide that a candidate performing slightly better than media expectations is suddenly more electable? Simply winning a primary in a small state or two does not reflect a great deal on a candidate's ability to win 270 electoral votes in the fall.

What we need, therefore, is an investigation into why these variables change over the course of a campaign. This is important because we also know that individual preferences can change over the course of a campaign (Bartels 1988), while most individual-level variables, such as partisanship, ideology, and orientation to issues are all very unlikely to change in that short of a time frame.[2] Therefore, expectations may be

[2] While individual orientation to issues may not change, the individual voter may learn more about a candidate's issue positions during the campaign, potentially causing a change in preferences. This process, however, is likely limited in its impact by the problem that there is still a tightly constrained issue space in any primary.

one of the few dynamic variables that can have a direct impact on preferences during a campaign, and may be primarily responsible for any change in preferences over the course of a campaign.

What we need to learn about expectations is why they change over the course of the campaign. Why was Bill Bradley seen as a viable candidate in the beginning of the Democratic race, but not viable by mid-February? Was it simply his losses in Iowa and New Hampshire? Why was McCain able to increase his viability after his wins in New Hampshire, despite not even competing in Iowa? And what caused his viability to then decline? While wins and losses may have some short-term impact, they do not appear to be enough to explain long-term change in expectations. We therefore need to find out what processes do have a long-term, major impact on expectations.

The argument of this dissertation is that expectations change in response to information gleaned by the voters about the candidates. Using this information, voters are then able to make rational judgments about the chances of each candidate. For some candidates, this information is readily available to the voters, while other candidates have very little information that is distributed to the voters. Changes in information about specific candidates, such as would occur after a surprising win or devastating loss, can have a direct impact on a candidate's perceived chances of winning by providing additional information about that candidate. Voters will take this information, process it together with their existing knowledge of the candidate, and form an expectation about the chances of that candidate.

Past research has also noted the importance of information on expectations. Gimpel and Harvey (1997) construct a model of expectations in the general election that

depends primarily on information and what voters know about the campaign. They hypothesize that gaining information about the campaign is crucial to the process of forming expectations. They show that information does indeed influence expectations about who will win, which in turn affects who people support in the general election. Additionally, they find that this information component of expectation formation is separate from any influence of preferences on expectations.

Mutz (1997) proposes one psychological model by which the transmission of information can have an effect on people's opinions. The cognitive response model that Mutz uses argues that listening to other peoples' views can cause one's own positions to shift, either towards or away from the positions of the other people. What this implies is that as people gain information, they will change their opinions, be it about their political preferences, or about their expectations of candidate chances.

A simple lack of information about candidates can be lethal to candidates. Geer argues that "one reason the candidacies … of Fred Harris, Reuben Askew, or Pete DuPont never got off the ground was because voters gained little information about them and hence did not give them careful consideration" (1989, p. 68). And in multi-candidate fields, information about all, or at least most, of the candidates tends to be fairly low (Mutz 1995; Haynes, Gurian, and Nichols 1997). This may be partly due to the fact that in a multi-candidate field, there is probably not one major candidate that all voters already know and like. If such a candidate existed, then there would be fewer candidates, as the one that is already familiar to voters will have a large advantage. Candidates act strategically when determining when to run (Jacobson and Kernell 1983), and they are

unlikely to run when there is a candidate that is greatly advantaged over any others heading into the campaign.

Information about the candidates appears to be one potential source (if not the main source) of the over-time variation in expectations. Information about the candidates also fluctuates over the course of the campaign. Voters will receive negative information at some times and positive information at other times. Voters can then use this information to update their expectations about the chances of the candidates.

Types of Information in Nomination Campaigns

So what sources of information do voters have about nominations? Voters largely receive information about three things: competitive standing, candidate qualities, and ideology and issue positions. Each of these may affect how voters view the chances of each candidate for the party nomination.

Issue positions and candidate ideology may have some effect on how voters view the chances of the candidates at winning both the nomination and the general election. A candidate with specific issue positions that are opposite the party norm, such as being a pro-life Democrat, is unlikely to win the party nomination. Voters will therefore judge that candidate's viability to be rather low.

Ideology is also important, as it might affect how people view the candidates' chances of winning the general election. A very liberal or very conservative candidate is less likely to win the general election than a moderate candidate (Downs 1957). Thus voters will lower their expectations of a candidate's ability to win the White House if they have such extreme ideologies. A more moderate candidate might be thought to be

more electable, but Stone and Rapoport (1994) find that the impact of a moderate ideology on electability is weaker than the impact of some other factors, such as candidate qualities. They argue that this may be due to the recognition of voters that ideology is not the only thing that general election voters look at, and that candidate qualities are often quite important.

Candidate qualities then, seem like they could have a considerable impact on expectations. How well a candidate appears in speaking is clearly important, as an ineloquent candidate will have a hard time connecting with voters and explaining his beliefs, be it in the nomination phase or in the general election. Voters, therefore, will look to candidate qualities as a way to judge the chances of a candidate winning election.

Finally, the competitive standing of the candidates can also have a strong impact on judgments of candidate chances. If a candidate is polling in the single digits, then they probably will not have a chance at winning. Voters are presented with a great deal of information about competitive standing from the media, and in fact, this type of coverage exceeds coverage on issues and candidate qualities (Patterson 1980; Marshall 1981; Robinson and Sheehan 1983; Geer 1989; Robinson and Lichter 1991). Bartels (1988) suggests that horse-race coverage is able to affect voters because they are better able to hold on to the information from this type of coverage, as it is easier to process. Additionally, when candidates are covered in terms of the horse-race, they appear as more viable to voters (Patterson 1980; Brady and Johnston 1987; Ansolabehere, Behr, and Iyengar 1991). And horse-race coverage gives voters constant updates about which candidate is gaining or losing ground (Patterson 1980; Robinson and Sheehan 1983; Robinson and Clancey 1985).

Though horse-race coverage dominates, it does so more in the earlier stages of the nomination. In later stages, issues take on a more prominent role in media coverage (Buell 1987; Lichter, Amundson, and Noyes 1988; Brady 1989). Nonetheless, horse-race coverage is an important cue to voters on what their expectations for the candidates should be.

Sources of Information in Nomination Campaigns

Where then, does all of this information come from? The media is clearly one source, as it has already been shown that they devote a great deal of their coverage to the horse-race aspects of the nomination. In later stages they may turn to issue coverage, but they are still the main source of information about the campaign for all voters (Ramsden 1996; Haynes and Rhine 1998). In fact, Ramsden claims that, "…the media are virtually the only source of campaign information" (1996, p. 66). Bartels also suggests that momentum might happen as a result of people responding "quite unthinkingly to changes in simple political stimuli, such as the frequency with which candidates' names appear on the television and in newspaper" (1988, p. 111).

After the McGovern-Fraser reforms, the media gained in importance, as the nomination decisions were now more completely in the hands of the party members, rather than the party bosses (Patterson 1980; Marshall 1981; Broh 1983; Polsby 1983; Traugott 1985; Bartels 1988; Ansolabehere, Behr, and Iyengar 1991; Norrander 1996). Candidates also know this, and spend a great deal of time trying to attract the attention of the media, especially when the media coverage is free (Arterton 1984; Traugott and Petrella 1989).

Media coverage is not constant, however. It changes over the course of the campaign and is a dynamic variable. Pfau et al. (1993) note that media coverage may be more influential in the earlier stages of the campaign, when candidates are not as well known as they are later on in the process. And, as already noted, the type of coverage changes from early horse-race dominated coverage to coverage of issues and candidate qualities in later stages. Additionally, candidates will receive more or less coverage throughout the campaign, and it may be in response to the candidate's competitive standing. The media is relatively unlikely to spend much time covering minor candidates that have little chance of winning, especially in later stages of the nomination process. This lack of coverage can serve as a cue to voters to believe that candidates that get little coverage are not worthy of their consideration.

The media are clearly the most important source of information about the campaign. Coupled with its focus on the horse-race, the media can have a major impact on candidate expectations (Abramowitz 1989; Ramsden 1996; Damore 1997). Studies that have noted the influence of media coverage on electoral performance (such as Ross 1992) may be picking up on this relationship, but are missing the true linkage, whereby media influences expectations, which in turn influence preferences. Any model of how and why expectations change over the course of a nomination campaign should therefore incorporate media coverage as a prominent factor.

Despite the importance of media, it is not the only source of information about the campaign. Candidates spend a lot of money in their efforts to win the party nomination. And they spend money in order to influence voters by providing positive information. This information is a more direct form of information about the candidates, and likely

does not focus a great deal on the horse-race, but instead on issues and candidate qualities. Candidates do not generally send out mailings or run TV advertisements stating that they are the candidate most likely to win the general election.[3] Instead, they spend their money in part to provide information about their issue positions and priorities, their leadership and other candidate qualities, and their ties to groups, such as unions or specific interest groups (Diamond and Bates 1984; Just et al. 1996).

The effect of spending on campaigns is also related to information that it provides. For example, Welch (1976) found that in legislative elections, campaign spending had a greater impact in the primaries than in the general election because voters knew more about the candidates by the time of the general election. In the primaries, therefore, voters have less information about the candidates, and spending can have a greater impact, as it is able to provide more new information. Candidates need to spend money in order to provide information to contributors, volunteers, the media, other politicians, and voters (Haynes, Gurian, and Nichols 1997).

But spending does not matter as much for everyone. Haynes, Gurian, and Nichols (1997) find that there as spending increases, vote shares will increase, even when controlling for other factors, and this leads to candidates with greater resources being more successful. Norrander (1996) argues that spending can help a lesser known candidate increase their vote share, but it will provide few additional reasons to support the better known candidates. Other studies support this view, with various findings of

[3] Though in the 2004 Democratic nomination, the candidates were perhaps more focused on expressing their ability to beat George W. Bush. They did so, however, by stressing the qualities and issue positions that they believed would help them defeat Bush in the fall election.

campaign spending only mattering in certain cases, including in the early stages or for less well-known candidates (Goldstein 1978; Bartels 1988; Wilcox 1991).

Like media coverage, the importance of campaign spending has increased as a result of reforms in the 1970s (Orren 1985). Prior to the passage of the Federal Election Campaign Act (FECA), candidates for the presidential nomination were free to raise and spend money without limits. FECA enacted donation limits to prevent any one person from bankrolling a campaign, and provided for federal matching funds for candidates that qualify. State-by-state spending limits were also set in place, so that campaigns that accept matching funds are limited in how much they can spend in any given state. Since the passage of FECA, only a few candidates have turned down federal matching funds, so these spending limits have been followed by most of the candidates for their party nomination.[4] An additional result of the financial reforms was that they made the media even more influential, as candidates seek to gain free media coverage in an attempt to make up for spending limitations (Traugott 1985).

Candidate spending in nomination campaigns may be more influential than it is in general election campaigns. Nice (1987) suggests that campaign spending has a fairly modest effect in general elections because the candidates have already been the subject of a great deal of media coverage. In nominations, candidates may have had less media coverage, especially the lower-tier candidates that are not well known by the public. As a result, we might expect that spending could have a greater impact on voters in

[4] Not all candidates have accepted federal matching funds for the primaries, and those who turn them down are thus freed from the state-by-state spending limits. The candidates that have turned down the matching funds are John Connally in 1980, Steve Forbes in 1996 and 2000, George W. Bush in 2000 and 2004, and John Kerry and Howard Dean in 2004.

nomination campaigns. And spending has this effect because it provides information, be it about candidate qualities, ideology and issue positions, or, in some cases, competitive standing. This information can then be used by voters to affect their view of a candidate's chances at winning, which in turn can influence vote preferences.

Media and candidate spending then appear to provide a great deal of the information about the candidates that voters need. But are there other sources of information? Voters can also talk to friends and family members about the campaign (Meyer 1994; Nadeau, Niemi, and Amato 1994; Pfau et al. 1995). But the original source of information that these interpersonal communications will contain is likely the other sources of information that have already been described. The actual information that is discussed will be derived from the media coverage of the campaign or the information directly provided by the candidate. Therefore, this source of information would only reinforce the information that is already out there.

Debates are also a way of transmitting information, with candidates focusing on issue positions and personal qualities (Traugott and Petrella 1989). The debates are a way for the candidates to provide information about how they differ from each other, but it is doubtful as to how many voters actually watch the debates. Instead, voters are more likely to learn about the debates through the media.

Unions and other interest groups also may attempt to influence voters in a nomination campaign. But the information that they provide to voters is also likely to be reflected in media coverage. When an interest group makes a big endorsement of a candidate, it is likely to spur media coverage of that event and the candidate. Such endorsements usually are designed to generate such coverage, so the real source of

information comes again from the media. When these groups make independent expenditures, however, they do begin to provide additional information. This is a more difficult situation to deal with, especially since a measure of all interest group activity is relatively difficult to attain. However, these expenditures, especially in a nomination campaign, are likely to be very focused on specific groups, such as the membership of that interest group. Therefore, any information that flows from the group is not going to be important on a broad-scale level, and might not have much impact. Any such large-scale efforts would again be covered by the media, so this is not much of a concern.

These sources appear to cover the vast majority of information that voters will gain about the candidates. Both of the major sources of information directly affect how voters view the candidates' chances of winning either the party nomination or the general election. This focus on information leads us to the theory of rational expectations, which is a theory that has come to dominate the study of economic expectations.

A Projection Theory of Expectations

Before turning to a discussion of rational expectations, there is one additional concern about expectations and vote preferences that must be dealt with. While expectations are assumed here to be an influence on vote preferences, there is a substantial concern that that may not be the case. Instead, voters could form their expectations based on who they want to win the election, and then rate their favored candidate's chances of winning as being higher than it actually is. This is known as a projection effect, and its presence has been the source of much concern in the expectations literature (Bartels 1985; Stone and Rapoport 1994; Stone, Rapoport, and

Abramowitz 1992; Abramson et al. 1992; Nadeau, Niemi and Amato 1994; Gimpel and Harvey 1997). This theoretical problem, however, does not seem to show up to a great degree when it specifically tested for. Abramson et al. (1992) find a small amount of projection in terms of assessments of candidate viability in the 1988 primaries, but discount it as only a minor problem.

Nadeau, Niemi, and Amato test to see if preferences influence expectations in their study, and find stronger support for projection effects. But they find it difficult to say whether this relationship occurs as a matter of basic projection effect, or if voters are making a "rational adjustment to contemporary information" (1994, p. 377). Their study spans a long amount of time, however, and they find that any projection effects that might occur tend to dissipate the closer it gets to election time. We may therefore extrapolate that in a nomination campaign, projection effects would be minimal, as it is close to the time of the election.

Gimpel and Harvey (1997) make an explicit attempt to separate out projection effects by modeling an informational component of expectations. By doing so, they argue, they can separate out any effect that preferences may have on expectations. They demonstrate the effectiveness of doing so, but do not rule out the potential for projection effects to occur.

While projection effects could potentially be a problem, the extent to which they have been found is fairly small. It is important to note, however, that past research has found it difficult to fully test for projection effects, and cross-sectional research might be inadequate to do so (Stone, Rapoport, and Abramowitz 1992; Gimpel and Harvey 1997).

In chapter five, I will test for projection effects using time-series data in an attempt to accurately describe the relationship between expectations and vote preferences.

2.3 Rational Expectations

Anyone whose future economic livelihood is based on their predictions of the way in which the future economy will perform is not just going to look at the past values of inflation or other economic variables in order to predict their future. Instead, they will look at government policies, prices of key goods, and any other information they may find relevant. To not do so would be taking a huge risk and could lead to financial loss, but using this information could help lead to financial reward. Voters in nomination campaigns can be viewed as investors in the same way. They are investing in candidates rather than economic goods, but with the same intention to get the maximum return on their investment. Therefore, when they judge the chances of a candidate winning election, they will use all available information about the candidates in order to make that judgment. To not use this information would be irrational and could lead to grievous mistakes. Making a wrong judgment about a candidate's chances could lead to voting for a candidate that has no chance at winning, and thus a potentially negative return on the voter's investment in that candidate.

In economics, expectations take on a number of forms, including consumer confidence, investor expectations, and expectations of future supply and demand, among other things. As a result, economists have done a considerable amount of work into looking at how and why expectations form and change. Several theories have been

proposed over time to explain economic expectations, but the theory that has come to dominate the field (McCallum 1980; Bafumi 2003) is that of rational expectations.

The basic theory of rational expectations is generally credited to John Muth (1961). Muth argues that actors use all available information in constructing expectations of economic phenomena. They incorporate this information into their judgments of the economy and make rational decisions about the future by using all of the information and not wasting any of it. By doing so, they are able to make expectations that are, theoretically, free from bias or error.

Additional wrinkles and ways to test for rational expectations have been added over time in the economics and political science literature. In this section, I look first at economic expectations and why they are important in that field, then discuss various ideas about expectations formation that have been used in the economics literature, focusing on the two main theories of expectations: adaptive expectations and rational expectations. I then turn to the instances in which expectations have spread over into political science and wrap up by looking at one additional theory of electoral expectations that has been explored by political scientists.

Economic Expectations

It is considerably important how consumers and economic actors view the future. When investors make decisions, they are essentially making decisions about what will bring about the best return on their investment. To do so, they must look at what they believe will happen in the future. If the investor believes that the tech sector will increase in value, then she will invest in tech stocks. If the investor instead believes that the tech

sector will be stagnant, and instead the telecommunications industry is ready to take off, they will adjust their investments accordingly.

Just as political scientists have come to believe that expectations influence voting behavior in some instances, there are many ways in which economic expectations can shape the behavior of individuals (Sargent 2004). Investment decisions are clearly dependent on expectations of future economic performance. Individual consumption is partially based off of expectation of future income. Employers can make wage decisions based on the expected rate of inflation. And this is just a small sampling of the ways in which expectations can affect economic behavior.

All of these behaviors are based off of the idea that people will maximize their utility or profits (Wallis 1980; Sargent 2004). This is similar to the idea of expected utility that has been used on occasion to explain voting decisions in presidential primaries (Abramowitz 1989; Abramson et al. 1992; Stone, Rapoport, and Abramowitz 1992; Stone, Rapoport, and Atkeson 1995). Voters, like economic actors, will seek to maximize their utility, which in the case of politics can be policy preferences or ideological direction. They maximize their utility by discounting it by the chances of that utility occurring. In primaries, this means that voters must decide which candidates are closest to them on policy and/or ideological terms and also judge their chances of winning election and actually enacting those policies or ideological directions. We can therefore see that economic expectations are thought to matter for much the same reason that electoral expectations should matter—they allow people to maximize their future utility.

Adaptive Expectations

Given the importance of expectations in economics, researchers have long sought to understand their formation. One early explanation of how expectations form and change is the theory of adaptive expectations (Cagan 1956). Under adaptive expectations, expectations about a variable are only influenced by past values of the variable in question. Nothing else is allowed to inform actors about the likely future values of the variable.

What would happen under an adaptive expectation framework is that actors would look to the past and present values of the variable. They also look at their own past expectations of what that variable's values would be. They then compare their past expectations to past and present values in order to determine their future expectations. If their previous expectations had been too low, then the actor might adjust their future expectation upward (Haller and Norpoth 1994). And if their past expectations had been too high, they would adjust their future expectation lower. What the actor is not allowed to do, however, is look at any other information about the variable at hand in order to better predict the future values of the variable.

In economics, it is important for policy-makes to know if economic actors use adaptive expectations when making judgments about the future. If, in fact, these actors do follow an adaptive expectations scheme, then policy-makers would have great leeway in setting policy, as the actors would ignore governmental policies when setting their expectations (Haller and Norpoth 1994). This could be the case if the actors in question have little understanding of economic policy. But if the actors are more sophisticated in their understanding of the economy and adjust their expectations based on changes in

government policy, then adaptive expectations would fail to accurately model their behavior.

Rational Economic Expectations

The major failing of the adaptive expectations framework is that it does not allow actors to use outside information to form their future expectations (Haller and Norpoth 1994). And in both economics and political science, this is not what we would assume to be true of any actor, whether they are judging the chances of a candidate winning election or judging the future value of inflation. As a result, Muth (1961) introduced the idea of rational expectations. This hypothesis required actors to bring in outside information in order to set their expectations of the future. The rational expectations hypothesis was further developed into a dominant force in economics, thanks in large part to the work of Lucas (1972; 1973; 1975; 1976) and Sargent (1973; 1976a; 1976b; and Wallace 1975), sometimes together (1981).

Why should we expect rationality when looking at expectations of future economic performance? According to Muth (1961), there are three reasons to assume rationality. First, it can be applied to all dynamic problems, meaning that all expectations can be studied using this idea, rather than having to construct separate theories for expectations in different markets or economic systems. Second, if expectations were not rational, then economists would have opportunities to make profits off of the extra information that they had about the workings of the economic system. And third, the assumption of rationality is flexible, allowing for other situations, such as differing levels

of information or systematic biases. By assuming rationality, we can deal with these other factors that may impact our results.

The rational expectations hypothesis has met support due in part to its proven ability to explain expectations, and its theoretical attraction. McCallum notes that "…the basic idea of the hypothesis is simply that economic agents behave purposefully in collecting and using information, just as they do in other activities, an idea that is hard for an economist to reject without considerable embarrassment" (1980, p. 717). Bray adds "The enormous virtue of the rational expectations hypothesis is that it gives a simple, general and plausible way of handling expectations" (1985, p. 189). Simply put, the rational expectations hypothesis predicts that actors will behave in exactly the manner in which we would expect them to behave, and that manner is very straightforward. This intuitive appeal of rational expectations far outweighs the more simplistic adaptive expectations model, which seems fairly unrealistic in its claims that people ignore any other information than the past values of a particular variable.

The rational expectations theory has not been without its critics, however. A major criticism of the hypothesis is that it assumes that actors know too much (Bray 1985). This is a considerable problem, especially in light of work in political science on the information levels of the U.S. electorate (Rivers 1988; Converse 1990; Lupia 1994; Krause and Granato 1996; Krause 1997; Krause and Granato 1998; Duch, Palmer, and Anderson 2000; Krause 2000; see also Frydman and Phelps 1983 and Pesaran 1987 for instances where economists have relaxed the assumption of homogeneous information levels). However, for rational expectations to work, actors do not have to be perfectly informed, rather they just need to know enough, and be able to process available

information, in order to make better judgments about the future. The basic idea of rational expectations is that actors use additional available information to help form their forecasts, not that they do so in a perfect manner. So even if some actors are not especially bright, if they pay attention to available information, they will still be able to make better forecasts than if they simply looked to the past.

In spite of Muth's main focus on information, the standard view of rational expectations in economics has moved beyond just acknowledging that actors use additional information in forming their expectations. As the hypothesis developed over time, researchers came to argue that rational expectations also requires that actors use the information efficiently, and not make mistakes (see Lucas and Sargent 1981). The reasoning for this, in part, is that it is not irrational to make a mistake once. To make the same mistake twice, however, is irrational (Haller and Norpoth 1994).

This approach to rational expectations has taken the focus somewhat away from the information aspects of the hypothesis, and moved it more towards the idea that rationality implies accuracy. This is somewhat different from the approach to rational expectations that Muth initially took, as well as the approach that is taken in this analysis. The differences between these approaches are discussed below.

Testing of Rational Expectations

Under Muth's (1961) initial formulation of rational expectations, the testing of rational expectations essentially amounted to a test of the underlying theory of the variable in question. Therefore, if it was theorized that certain variables (representing additional information) affected the main expectation of interest, you would test to see

that those variables did in fact have an impact on the expectation. Under the error-based view of rational expectations, you would instead take the forecasts of the individuals and compare those subjective expectations to some objective measures of the variable in question. For example, if you are interested in expectations of inflation, you would take the forecasts of inflation and compare them to what inflation actually turned out to be. Taking the errors from the forecasts, you would then see if they were systematically related to something else. If so, then the expectations are not rational, as the actors could have used other information in forming their expectations.

This is a source of disagreement, especially in the political science literature that addresses rational expectations. If one takes the first view, then we should look at the sources of information and their effect on expectations. The second view, however, would require tests of two hypotheses: that the errors have a theoretical mean of zero, and the autocorrelations of the errors must be zero for any lag (Attfield, Demery, and Duck 1985; Haller and Norpoth 1994).

While testing the rational expectations hypothesis by looking at the forecast errors is more in line with standard economic practice, political scientists have not always done so (Krause 2000). Instead, political scientists on many occasions have looked at the effect of information on expectations (e.g. MacKuen, Erikson, and Stimson 1992). This is due in part to the type of expectations political scientists often deal with, which are directly observed expectations. Economists generally test models of expectations without actually observing the expectations, by inserting rational expectations as an assumption into a larger model which they can then test (Lucas and Sargent 1981). The fit of the model is then used to assess the rational expectations assumption. Additionally, the

information that the actors in the model supposedly use in forming their expectations is also never explicitly shown (Haller and Norpoth 1994).

Not all economists, however, test the rational expectations theory without observing the expectations. For example, economists studied the views of economic experts (Mullineaux 1978; Brown and Maital 1981) and consumer expectations (Lovell 1986; Batchelor and Dua 1989; Rich 1989; Smyth 1992) by looking directly at observed expectations. Political scientists are often concerned with observed expectations as well, and therefore deal with such data. The difference, however, is that economists have objective measures to compare their forecasts to, while political scientists do not always have that luxury.

This presents a stark problem in how we can test our models. If we have no objective measure to compare, say, the chances of Al Gore defeating John McCain in the general election, since such a match up never occurred, does that mean we cannot even test to see if expectations of such a contest are formed rationally? Even in cases where the proposed match up actually occurred, such as Gore against Bush, how is it possible to take that single outcome and compare it to a long time series of expectations? If we were to follow the criticisms of Haller and Norpoth (1994) or Krause and Granato (1996), then we would not be able to test for rational expectations. If we instead looked at the other aspect of rational expectations, the informational side, then we can test for rational expectations.

The model to follow in this regard is MacKuen, Erikson, and Stimson (1992), who look at the U.S. electorate to determine if voters follow a more prospective or retrospective approach in applying economic conditions to their voting behavior. They

argue that voters are prospectively oriented voters that follow a rational expectations approach in forming their expectations about the future economy. Their view of rational expectations, they acknowledge is not focused on the accuracy of the economic predictions, but rather on the ability of the electorate to incorporate new information into their expectations of the future economy. In arguing this, MES present a model by which they test to see the effects of information on expectations, rather than testing the errors of those expectations.

While this method is not what is usually followed in economic tests of rational expectations, it is a much better theoretical fit for the test of rational electoral expectations, and still falls in line with what MES call "the heart of rational expectations" (1992, p. 598)—that actors incorporate all available information when forming their expectations. In politics, just as may occur in economics, people can be wrong. What is important is whether or not people will use the information at hand, and thus act rationally, or if they will not use that information, and thus act irrationally (MES 1992).

While economists and some political scientists may reject this approach as not being a "true" test of rational expectations, it is an appropriate one. This approach does have some limitations in its ability to extend to tests of weak and strong rational expectations, however. Strong rational expectations requires that actors use all relevant information and leave nothing out, and do so in an efficient manner (Brown and Maital 1981; Begg 1982; Mishkin 1983; Krause 2000). Weak rational expectations is less restrictive, in that it simply requires that a person be correct in their predictions on average (Muth 1961; Brown and Maital 1981; Sheffrin 1983). So under weak rational

expectations, predictions can be inaccurate, but such mistakes are not systematic. Under strong rational expectations, however, mistakes should rarely occur.

While it may not be entirely possible to test for strong rational expectations under the setup of this study, it is possible to test for a part of weak rational expectations. Under weak rational expectations, voters may fail to consider some relevant information that could help them in making forecasts of the variable in question (Krause and Granato 1998). Thus we could find evidence of weak rational expectations by finding that voters in some instances will look at information from the media, but ignore information coming directly from the candidate, or vice versa. Though this again does not go about testing in the same way as Krause and Granato (1998) may find to be standard, it is still a logical extension of the theory and should provide insights into the formation of electoral expectations.

Crossing Over: Rational Expectations in Political Science

While the theory of rational expectations has been a dominant force in economics, its usage in political science has been somewhat less. While references to certain instances in which rational expectations has found its way into political science have been made above, there are a number of other occasions on which political scientists have borrowed the idea. There are two major political science literatures in which rational expectations have been used: economic evaluations and presidential/party approval (Chappell and Keech 1985; Chrystal and Peel 1986; MacKuen, Erikson, and Stimson 1992; Clarke and Stewart 1994; Krause and Granato 1996; Krause 1997; Krause 2000), and arms races (Williams and McGinnis 1988; Goldstein and Freeman 1991; McGinnis

1991; Moore 1995).[5] For the sake of brevity, I will not discuss the arms race literature, but the presidential approval literature is more relevant to the purposes here, and I will touch on a few important pieces.

The most relevant instance in which rational expectations has entered into the political science literature is in Nadeau, Niemi, and Amato's study of expectations and British election preferences (1994). In their study, they attempt to take a middle road between adaptive expectations and rational expectations. Their reasoning for doing so is that an adaptive expectations model is not sufficient to truly explain why expectations change—there are other factors that can influence expectations, and simply looking at the past history of the variable is not enough. But they worry that the requirements of a rational expectations model may be too strong. This is largely because of the setup of their study, which takes on a different form from the study of U.S. presidential nominations.

The reason that the setup of their study affects what they expect is that their data comes from an eleven-year series of expectations and economic conditions. At some points in their study, such as directly after an election, it would be very difficult for voters to incorporate this economic information into their evaluations of who would win the next election. Such judgments would be dominated entirely by political considerations, and voters would not be able to make fully rational judgments of the chances of a party winning the next election. Thus for their study, rational expectations is too strong of a

[5] There are a few other instances in which rational expectations enter into political science, but these two literatures represent the major instances in which rational expectations has crossed over. For other examples of rational expectations in political science, see Mebane (1998), Wittman (2001), and Williams (1990).

theory. For a model of U.S. presidential nominations, however, these would not be problematic, as the nomination campaign is in a specified time period, and most studies are focused on that specific time period.

The Nadeau, Niemi, and Amato study is also important in that it demonstrates the type of test for rational expectations that we might find in the political science literature. In their model of electoral expectations, their basic dependent variable of interest is the expectation about who will win the next British general election. To explain this expectation, they take the lagged values of outside information that might be relevant to voters and their expectations of the future winner. The variables they use to explain the electoral expectation are: the forecast of the expected winner from time t-1, personal vote intention, personal economic expectations, and a variable measuring the Conservative winning reputation. The last variable is a dummy variable measuring the time period from July 1983 to June 1987. They also include interactions with a postelection dummy variable to represent interviews taken directly after a general election had taken place. They find that each of these variables is significant in explaining the forecast of the expected winner at time t, arguing that this shows that electoral expectations are formed rationally by using outside information.

While Nadeau, Niemi, and Amato deal with British election preferences, other studies have looked at rational expectations in U.S. electoral behavior. This literature includes MacKuen, Erikson, and Stimson's (1992) work on presidential approval and economic evaluations. In this line of research, there is a close intertwining between the retrospective/prospective voting approaches and the adaptive/rational expectations approaches. The general idea is that voters that use only retrospective evaluations of the

economy are actually adhering to an adaptive expectations approach, while voters that use prospective evaluations are following a rational expectations approach (MES 1992; Bafumi 2003). This association, however, is not entirely accurate, Krause (2000) notes, as retrospective evaluations can also be considered rational expectations.

While the most relevant debate in this line of literature is how best to test for rational expectations (MES 1992; 1996; Clarke and Stewart 1994; Krause and Granato 1996; Krause 1997; Krause 2000), there is also discussion over the homogeneity or heterogeneity of the electorate (Krause and Granato 1996; Krause 1997; Duch, Palmer, and Anderson 2000; Krause 2000). In this research, voters are seen as having differing informational capabilities. Some voters are well-informed and have high levels of education, while others are less-informed and have lower levels of education. This can have an effect on whether a person forms rational expectations or adaptive expectations. Those voters with more capabilities are more likely to form rational expectations, while those with lower capabilities are less likely to form rational expectations, and may only form adaptive expectations (Krause and Granato 1996).

This can impact the theory of electoral expectations in a very important way. The implication of this line of research is that voters with more information are more likely, or are at least more capable, to act rationally in forming their expectations. Voters with less information are less likely to form rational expectations. In a nomination campaign, information levels take on an additional component, in that some candidates are better known, and information already exists among the entire public about these candidates. For example, Al Gore and George Bush enjoyed high name recognition in the entire public, an important first step in getting recognized as serious candidates. As a result, the

heterogeneity of information levels *about the candidates* could be important in a nomination campaign. It may in fact be even more important than voter-level heterogeneity, as all voters would be able to immediately recognize Bush and Gore as candidates, and would be more likely to remember hearing about them than other candidates who they do not so readily recognize.

This brings us to Table 1.1 from chapter 1, where we see that the best-known candidates, when faced off against each other, result in strongly rational expectations.[6] Voters will remember the names of these candidates, and be more likely to pay attention when they hear their names in the media, or in a TV ad. As a result, they will be able to use the information they glean from this in order to set their expectations. When a well-known candidate faces off against a lesser-known candidate, the expectations may be rational, but not strongly rational, as the voter may not have as much information about the lesser-known candidate. And then when lesser-known candidates square off against each other, the expectations may not be rational at all, as voters would simply not have enough information to make good judgments about the likelihood of one candidate winning.

2.4 Conclusion

The theory of rational electoral expectations should work well in the presidential primary setting. Media and candidates serve as the main sources of information about the candidates and their chances at winning, and they can help voters make good decisions about a candidate's chances. By applying this theory to what we already know about

voting behavior and presidential primaries, we can fill a hole in our knowledge by explaining why it is expectations change over the course of a campaign, and thus why preferences change over the course of that campaign as well. This is important, as we are always seeking to learn more about the process by which we elect our policy-makers, and this provides a good, theoretically sound basis for studying this process.

The next chapter takes the theory of rational electoral expectations and turns to the question of how to test the theory. Through the use of a mixture of data on expectations, media coverage, and candidate spending, we can use time series methods to test the rational electoral expectations theory and see if it can explain how expectations change during a campaign.

[6] While I use the terminology of strong rational expectations here, the tests in chapter six will take on a different form than the normal tests for strong rational expectations that can be found in Krause (2000).

CHAPTER 3

DATA AND METHODS—THE STUDY OF EXPECTATIONS IN THE 2000 PRESIDENTIAL PRIMARIES

The study of expectations in U.S. elections has focused largely on primary elections, especially presidential primaries. While there are a larger number of primaries held for lower-level offices, from the U.S. Senate down to local city councils, presidential nominations are the most well-known and have the highest profile of these elections. As a result, these nomination battles could serve as an especially tough test of the rational expectations hypothesis. The candidates for the major party nominations are usually at least somewhat well-known by the time the first primary occurs in New Hampshire, and anyone paying attention to the media will know at least a small amount about the candidates for the nomination. As a result, expectations for these candidates may already be set in the voters' minds, and additional information during the primary period may not have any effect in changing those expectations. For a lower-level office, the candidates may not be as familiar to the voters, and as a result, information may have a greater impact on expectations of the candidates' chances.

For this study, I use a collection of data on the 2000 presidential nominations for both major parties. Specifically, I look at the expectations surrounding the chances of the two Democratic candidates, Bill Bradley and Al Gore, and the two main Republican

candidates, George W. Bush and John McCain. By combining data on expectations with data on media coverage and campaign finance, I test the theory of rational electoral expectations.

I use a mixture of both cross-sectional and time series methods to test the data. Cross-sectional data is used to compare the results of expectations-based models of presidential primary preference with more behavioral-based models. The time series data is used to look at how the variables change over the course of a campaign, to see the ways in which expectations, media coverage, and campaign finance interact. By doing so, we can see how lasting of an effect changes in information levels have on expectations, and whether or not actual performance in specific primaries can also have a lasting impact.

3.1 The 2000 Presidential Nomination Campaign

The 2000 presidential campaign saw a relatively rare event—contested nomination battles in both parties. Since the McGovern-Fraser reforms of the early 1970s, there have been only two occasions in which an incumbent president was not seeking his party's nomination.[7] The first was in 1988, when Vice President George Bush faced a large field of Republican challengers to emerge as the nominee, and Michael Dukakis won the Democratic nomination. The second was in 2000, where Bush's son, George W. Bush, was faced by a field of Republican challengers that

[7] I do not include the 1972 campaign, since the McGovern-Fraser reforms were still new, and not yet completely established for both parties. Therefore, most voters and candidates were relatively unfamiliar with the new system and how it worked. Excluding the 1972 election does not change the patterns here, however, as the incumbent president, Richard Nixon, was unopposed for the Republican nomination, and there were multiple Democratic candidates.

included John McCain as his main, and only formidable, competition. The sitting Vice President in 2000, Al Gore, faced only one Democratic opponent, Bill Bradley, for his party's nomination.

Although this was only the second time that an incumbent was not seeking re-nomination, there have been a few other occasions where the incumbent sought re-nomination and faced opposition in the party primary. In 1976, Gerald Ford faced a stiff challenge from Ronald Reagan before eventually winning the Republican nomination.[8] In 1980, Jimmy Carter faced a similarly difficult challenge from Ted Kennedy. And in 1992, George Bush held off an insurgent campaign from Pat Buchanan. In fact, only three times since the McGovern-Fraser reforms took effect has there not been at least some competition for a party's nomination: 1984 in the Republican primary, 1996 in the Democratic primary, and 2004 in the Republican primary.

It is also important to note that in many of these nomination campaigns, there were only two main candidates for the party nomination. Even though it is common to see a number of potential candidates step forward to run for their party nomination, the race usually boils down to only two main candidates.[9] In 1976, the Republican nomination was Ford vs. Reagan, in 1980, the Democratic nomination was Carter vs. Kennedy, in 1984, the Democratic nomination was Mondale vs. Hart, in 1992, it was Bush vs. Buchanan and Clinton vs. Tsongas, and in 2000, it was a two-man race on both

[8] Ford was the incumbent in the 1976 election, but he was not an elected incumbent and was thus weaker than a normal incumbent who had won his party's nomination in a previous election. Nonetheless, he was a sitting president seeking his party's nomination, and had some advantages in that capacity.

[9] I consider an election to have been a two-man race when there are two main candidates that garner most of the media attention and votes. There may be minor candidates in these races, but their role is generally only as nuisance factors. Thus, Jerry Brown in 1992 and Alan Keyes in 2000 are not considered main candidates, even though they did not drop out of the nomination for a long time, because they were only minor candidates that were never serious contenders for the nomination.

sides. Thus, of the sixteen party nomination campaigns (eight for each party), almost half (seven) consisted of two-man campaigns, while the rest were split between uncontested nominations (three), and multi-candidate nominations (six) in the 1976 Democratic, 1980 Republican, 1988 Democratic and Republican, 1996 Republican, and 2004 Democratic campaigns. Therefore, the 2000 presidential primaries should prove to be an appropriate election to look at to test the theory of rational expectations.[10]

The Republican Campaign

The 2000 presidential nominations did not both start out as two-candidate races. A number of prominent Republicans announced their potential candidacies early on in 1999. George W. Bush was one of the most prominent, due to the name recognition from his father's presidency. But Elizabeth Dole, the wife of 1996 nominee Bob Dole, was also seen as a potentially strong candidate. Other Republicans included John McCain, an Arizona senator, Steve Forbes and Lamar Alexander, who both ran in 1996, Dan Quayle, the former vice president under the first President Bush, Orrin Hatch, a senator from Utah, Bob Smith, a senator from New Hampshire, Gary Bauer, the head of the conservative religious group Focus on the Family, and Alan Keyes, a former ambassador who had also run in 1996.

By the time the Iowa caucuses rolled around, most of these candidates had dropped out, with many endorsing George W. Bush, who had raised record amounts of campaign funds. Bush was left with just a few opponents: Steve Forbes, Alan Keyes,

[10] The 2004 Democratic nomination would likely be a good test for rational expectations in a multi-candidate nomination, once the data becomes available.

Gary Bauer, and John McCain. McCain, however, did not participate in the Iowa caucuses and focused more heavily on New Hampshire's primary. Of the remaining Republicans, Forbes was only able to stick around due to his own personal fortune, while Keyes and Bauer were never considered true threats of any kind.

John McCain, however, proved to be a significant opponent for Bush. McCain was able to raise a decent amount of money, though not nearly as much as Bush, and had a considerable appeal to independent and cross-over Democratic voters, due to his military record, support for campaign finance reform, and perceived moderate ideology. This appeal, combined with his skipping of the Iowa caucuses, led to McCain winning New Hampshire, which dealt a serious setback to the Bush candidacy.

The next Republican primary was held in more conservative South Carolina, where McCain was unable to benefit from cross-over voters due to the state's closed primary laws. As a result, Bush won South Carolina and emerged again as the favored candidate. Despite wins in Michigan and his home state of Arizona, McCain was unable to compete effectively with Bush in the March 7th Super Tuesday states[11], due in part to Bush's lead in fundraising. Bush's victories on Super Tuesday resulted in an insurmountable lead, and McCain suspended his campaign two days later, effectively ending the battle for the Republican nomination.

The Democratic Campaign

On the Democratic side, there was less doubt about who the nominee would eventually be. The conventional wisdom was that Bill Clinton saw the election of Al

Gore as the continuation of his legacy, and most of the key Democratic figures supported Gore's bid for the nomination. But Bill Bradley, a former senator from New Jersey and former professional basketball player, showed a surprising ability to raise money early on in the campaign, well before any votes were cast. Bradley was much less known than Gore to most of the country, and his campaign suffered perhaps more from the candidacy of John McCain than Bush's, as McCain and Bradley drew from similar support bases of disaffected voters, such as moderate Democrats and Republicans, independents, and voters who felt campaign finance was a very important issue. More of those voters felt that McCain was the better (or at least more viable) option than Bradley, so Bradley's potential support base was limited.

Once the votes started being cast, Bradley quickly faded from the picture. Gore won a sound victory in Iowa, winning 63.4% of the vote, and followed that up with a somewhat closer four percentage point win in New Hampshire (Abramson et al 2003). After McCain's victory in New Hampshire's Republican primary, most of the media attention turned to the Republican race, to the detriment of Bill Bradley, whose candidacy was then seen as a long-shot. Bradley had little success after New Hampshire, which proved to be his best performance, and he ultimately dropped out of the race after Super Tuesday.

After the March 7th primaries, both Bradley and McCain had effectively dropped out of the race, and the general election campaign between Bush and Gore was set. The two nomination campaigns were different in some aspects, with the Republican race

[11] McCain was not completely shut out on Super Tuesday, but all of his wins came from more liberal northeastern states that had relatively small delegate totals for the Republican nomination.

being somewhat competitive, but were similar in several ways as well, with the better-financed, better-known, favored candidates both eventually winning their party's nomination.

3.2 Expectations and Vote Preferences

The data I use to measure the expectations of candidate chances comes from the 2000 National Annenberg Election Study. The study consisted of a rolling cross-section design, in which new national cross-sectional samples were drawn each day during the 2000 campaign, starting in December of 1999. The study continued through early 2001, though I analyze only the data from December 14th, 1999 to March 9th, 2000, the day that both Bradley and McCain dropped out of the race. The study was funded by the Annenberg School for Communication and the Annenberg Public Policy Center of the University of Pennsylvania (Romer et al. 2003).

The design of the study lends itself well to studying the dynamics of a campaign. With new samples every day of the campaign, researchers can get new data points following every major campaign event. Trends over time can be studied by comparing the responses from day to day. This allows us to test theories that have previously been untestable due to a simple lack of available data. The study of expectations as dynamic variables that change over the course of a campaign is well-suited to the design of this study.

The Annenberg study ended up with 79,458 total respondents during the entire study (Romer et al. 2003). This number includes several side studies of pre-post panels surrounding certain primaries and other campaign events. The total number of

respondents for the rolling cross-section, the aspect of the study that is used in part for this analysis, had a total of 58,373 respondents over the year. During the primary period in question, from December 14th, 1999 to March 8th, 2000, the national level study averaged about 50 respondents a day from December 14th to January 3rd, and 100 respondents a day after that (Annenberg Main Codebook 2003), with a total of 6,624 respondents used in this analysis to construct the time series variables.

I use data from respondents in the daily national cross-section rather than data from the smaller samples drawn from specific states for several reasons. First, this provides a greater amount of data over a longer time-span. Second, voters in every state will get some media coverage about the campaign well throughout the campaign, be it from local media or, more likely, the national media. Therefore, voters are constantly receiving new information about the candidates and will continue to update their expectations of the candidates' chances throughout the campaign. A potential concern about using the national cross-section is that some states did not have a primary or caucus until much later in the process, or had their contest very early on in the course of the campaign. Those states may have not received much advertising from the candidates, or experienced as much local media coverage of the campaigns, whereas respondents in states with earlier contests, in the middle of the primary campaign period, may have been exposed to more media coverage of the race. However, to exclude respondents from states whose contests do not fall within the time-frame of this study, or were at the early stages of it, would severely limit the available data. Further, campaigns make their decisions in part based on national considerations, and how the race is playing out across the entire national electorate. It is therefore more appropriate to look at the entire

national cross-section than at just smaller sub-samples of voters in states whose contests fall within the time-frame of this study.

There are three main groups of variables that the Annenberg data can provide to this research. The first group is a set of questions about vote preference in the primary elections. The second group is the set of expectations questions for each candidate. And the third group of variables includes a number of behavioral questions that we can use to identify expectations as being important at the individual-level decision-making process.

The set of questions pertaining to vote preferences is split by party. Respondents were asked if they planned to vote in a party's primary election. If they did plan to do so, then they were asked which party. Depending on their response, they were then presented with a list of Republican or Democratic candidates and asked which they would vote for. The question reads: "If you voted today in the [Republican/Democratic] presidential primary election, which candidate would you vote for?" For the Republicans, they were given a choice of George W. Bush, John McCain, Alan Keyes, Steve Forbes, Orrin Hatch, Gary Bauer, or someone else. The Democrats were given the option of Al Gore, Bill Bradley, or someone else. The important part of this question is that it asks people if they voted *today* in the primary, who they would vote for. This is important, as it asks people of their preference at that moment, which could be very important if, for example, a respondent had already voted in a primary but had since changed their preference. By asking them of their preference as of that day, we can better keep track of changes in preferences over time.

Since Forbes, Bauer, Keyes, and Hatch all drew minimal support, both in actual primaries and in the Annenberg study, the relatively few respondents who selected one of

those candidates are excluded from the vote preference variables. The Republican vote preference variable is thus just a two-value variable taking on a value of 1 for a Bush preference, and 0 for a McCain preference. The aggregated series, therefore, represents the percentage of Republican voters on a given day that preferred Bush over McCain. On the Democratic side, the variable is coded the same way, with Gore a value of 1, and Bradley a value of 0, and the aggregated series is the percentage of voters who preferred Gore.

The variables measuring expectations are split into two sets. The first is viability. Viability deals with the chances of the candidate winning their party's nomination. In the Annenberg study, the wording of the viability question for the Democratic race asks: "Using a scale from zero to 100, where zero means no chance, 50 a 50-50 chance and 100 a certain win, what do you think the chances are that Al Gore will beat Bill Bradley and become the Democratic candidate for president? You can name any number from zero to 100." The order in which Al Gore and Bill Bradley's names were read was randomized, so that half the sample was asked of Gore's chances of beating Bradley, and half were asked Bradley's chances of beating Gore. The variable is recoded in this analysis so that all responses are in the direction of Gore's chances of beating Bradley.

On the Republican side, since there were more than two active candidates, viability questions were asked separately for each candidate. The form of these questions was: "Using a scale from zero to 100, where zero means no chance, 50 a 50-50 chance and 100 a certain win, what do you think the chances are [John McCain/George W. Bush/ Steve Forbes] will beat the other Republican candidates and become the Republican candidate for president? You can name any number from zero to 100." This does take on

a slightly different form from the Democratic question, in that there are separate viability questions that do not set up a direct comparison between candidates, but there is little reason to worry that either form is a faulty method of asking the viability question.

The second set of expectations variables is electability. These variables measure the chances of a candidate winning the general election. In the Annenberg study, viability is coded on a 0-100 scale. The higher the number, the higher the perceived likelihood of that candidate winning their party nomination. For electability there are two ways in which the question can be posed. The first would be to ask, "Thinking about the general election in November and using a scale from zero to 100, where zero means no chance, 50 a 50-50 chance and 100 a certain win, what are the chances Al Gore would win?" This would leave the respondent to answer the chances of Gore winning any general election match-up. This is not an optimal method of asking electability, however. Gore's chances of winning the general election would likely be very different if he was facing John McCain instead of George Bush. And Bush's chances of winning would be very different when facing Bill Bradley. Additionally, this form of the question leaves open the question of whether the candidate is even nominated by their party, allowing viability to seep into the potential response. To deal with this problem, it is therefore better to ask the electability question in the form: "Thinking about the general election in November and using a scale from zero to 100, where zero means no chance, 50 a 50-50 chance and 100 a certain win, if Al Gore ran against George Bush, what are the chances Gore would beat Bush?" This is the form of the question that the Annenberg study asked, with hypothetical match-ups between Gore versus either Bush or McCain, and Bradley versus either Bush or McCain. This leaves us with four electability questions.

When broken down by party (having Republican voters assess the electability of their candidates, and the same for Democrats), this doubles to eight variables. In chapter five, I use the electability variables as split by party.[12] In chapter six, I use both the electability variables that are not split by party and the variables that are split by party in order to test the rational electoral expectations theory.

The respondents are split into three partisan groups. The first group is made up those who reply that they would vote in their state's Democratic primary if it were held that day. From here forward, these respondents are considered to be the Democratic voters. The second group consists of those who would vote in the Republican primary if it were held that day. These are considered to be the Republican voters. The third group consists of everyone, including those who would vote in either primary. I split the respondents into these two categories because we are interested in learning about the decision-making process of those who are voting in each primary, regardless of which party they are registered. This way we can include those who are not registered as a Democrat but are going to vote in the Democratic primary in their state. We therefore get a better picture of the decision-making process of those who are actually casting the votes. This is better than using party identification to split the voters because doing so may cause us to miss some cross-over voters or independents who are not members of the party whose primary they are going to vote in. We get a better picture of the actual primary electorate by doing so.

[12] Party membership is determined by which party's primary the respondent says they would vote in. This is done to acknowledge the presence of cross-over voters who may be registered members of one party, but wish to vote in the other party's primary election.

The individual responses to these questions are aggregated to a daily level. Each of the three different daily aggregations are used: the expectations of Republican voters, Democratic voters, and the expectations of everyone pooled together. This is done to see if the expectations are different for those who plan on voting in the different party primaries. A Republican voter may be more likely to downgrade the electability of any Democratic candidates, and a Democratic voter may be likely to downgrade the electability of any Republican candidate. As a result, combining them together may result in a small systematic bias in the perceived electability of the candidates.

In chapter four, I use several other variables, such as partisan self-identification, ideology, issue positions, and several demographic questions. These variables are described in that chapter, and take on the standard forms used throughout the voting behavior literature.

One potential technical source of concern with these expectations variables—the number of don't knows—appears to not be a problem. The series that had the most don't know responses was the one we would expect to have the most such responses: the Bradley vs. McCain electability series. Among Democrats and Republicans, the series averaged about four don't know responses per day. The other electability series all averaged close to just one don't know response per day. Each of the series that was split by party averaged about twenty responses per day in order to make up the aggregated series. This is not a large number, so we should expect a fair amount of noise in these series due to small sample sizes. This should, however, cause us to be more likely to find a null result, where the series does not appear to be affected by anything else. So if

anything, this should lead to a more difficult test for the theory of rational electoral expectations.

Don't know responses are left out of the aggregation process. When the variables are aggregated, only valid responses for that day are used to calculate the average expectation for that day. This is the appropriate method of dealing with don't know responses, as any other approach, such as entering in a value of 50 (the mid-point of the scale) or imputing a value based on a regression model, would run the risk of altering the actual dynamics of what is going on in the data, and may misrepresent the actual respondents' views. Since there is only about one don't know response per day for most of the variables, it is unlikely that doing anything to fill in a value would really have that large of an impact in any case.

3.3 Media Coverage

The second source of data comes from a content analysis of daily front-page stories on the campaign in the *New York Times*. Only stories appearing on the front-page are coded. Front-page stories are a proxy measure for the type and extent of media coverage that is prevalent throughout the campaign. Front-page stories are more likely to be accessible to the public, who look for quick sources of information, and these are often the stories that contain messages that are most emphasized by the candidates (Haynes and Rhine 1998). The approach of using front-page stories is not a new one, with research by Haynes and Gurian (1993) and Haynes and Rhine (1998) both using front-page stories of the nomination campaigns as measures of media coverage.

The use of the *New York Times* for media coverage is also a proxy measure of overall media coverage, as the national newspapers are considered the prestige press, and their coverage serves as a guide for what is important to other media outlets (Graber 1997). Additionally, the national newspapers and major television networks generally agree in their assessments of candidate performance and future chances (Marshall 1983). For these reasons, Mutz (1995) argues that newspaper readers and television viewers will receive approximately the same account of the nomination campaign.

The *New York Times* stories are coded on a negative-positive-neutral scheme for each candidate.[13] Each word of the story is coded, and the number of words of each type of coverage is aggregated into a daily time series. Thus each candidate has three daily time series of media coverage: positive, negative, and neutral. This information can then be used to construct several different series. One series that simply counts coverage can be constructed, as for some candidates, any coverage is good coverage, even if it is negative, as that still gets their name out into the public. Other series that can be constructed from this setup include positive minus negative coverage, and the percentage of negative or positive coverage. This design allows for considerable flexibility in how to present media coverage, which is beneficial to the attempt to understand what information voters use in constructing their expectations.

The coding procedure required the coders to look at each front-page article that contained information about one of the candidates.[14] The coders were then instructed to analyze the stories and the coverage as if they were a member of the campaign team for

[13] The coverage is strictly about each candidate or their campaign. Information about Bill Clinton would not be counted, unless it was in direct relation to his effect on the Gore campaign.

that candidate. Any coverage that the candidate's campaign would see as good, or positive coverage, would then be coded as positive coverage. Any coverage that the campaign would judge to be bad, or negative, was coded as negative coverage. Any remaining content, which usually consisted of stating facts, such as "There are 547 delegates up for grabs this week," would be coded as neutral coverage.

3.4 Campaign Expenditures

The third source of data is Federal Election Commission data on candidate expenditures during the primary season. The data is again aggregated for each candidate into a daily time series, recording how much each candidate spent on any given day of the primary season. The reason I use expenditures instead of receipts is that information is not transmitted to voters simply by a candidate bringing in money. Fund-raising is covered by the media, so any positive effects that may result from a candidate being successful in *raising* money would be transmitted that way. Information is, however, transmitted when a candidate *spends* money. Candidates spend money to buy campaign ads, send out mailings, and engage in other activities that provide information directly to voters.

These three sources of data provide a considerable amount of information about the presidential primaries of 2000. With this data, we can turn to what methods can be used to test the theory of rational electoral expectations.

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[14] The candidates included in the coverage included the main four candidates as well as Steve Forbes. Very little front-page media attention was given to Forbes, however.

3.5 Methods

With the several different daily time series for each candidate, it is important that appropriate statistical methods should be used to test the theory of rational expectations. Time series methodology provides a host of techniques that can be used to test the available data. Time series methods have long been used to test rational expectations in economics, and are equally useful here to test rational expectations in the electoral arena.

Several specific time series methods that are useful include vector auto-regression models, Granger causality tests, and fractional integration. These techniques allow for researchers to test which variables are best explained by other variables, as well as how individual variables change over the course of time. Each method is helpful in determining how and why electoral expectations change over the course of a campaign.

In chapter four, in order to address the importance of expectations in their influence on preferences, I use cross-sectional methods, by way of logit models, to look at the relative influence of expectations and more traditional behavioral factors on vote preferences. The time series methods I explain in this chapter will be used in chapter five in tests of whether or not expectations are subject to projection effects, or whether expectations do influence vote preferences. In chapter six, I turn to full tests of the rational electoral expectations theory, again using these time series methods.

Properties of Time Series and Fractional Integration

When time series methodology is used, one of the most important questions the researcher has to face is how each individual series moves over time, and to what degree the series has a "memory". This is done by looking at the properties of each series,

especially at the degree to which an outside shock to the series has a persistent effect over time. This persistence in the series is measured by estimating the parameter *d*. This parameter takes on values from 0 to 1. A d-value of 0 means that the series is a stationary series, with no persistence of memory. This means that any outside shocks will quickly lose their effect, and the series will revert back to its mean level. A d-value of 1 means that the series is a unit root series, in which the series has a perfect memory of outside shocks, which causes the series to not revert to its mean level once an outside shock has been applied.

There are various tests to see if a series contains a unit root (d=1), or if it is stationary (d=0), but it is not always appropriate to make such a complete distinction (see, for example, Box-Steffensmeier and Smith 1996 and 1998). Instead, time series should be allowed to take on any value of d between 0 and 1. A series that does take on such a value is fractionally integrated. When a series is fractionally integrated, the effect of a shock to the series does degenerate over time, as in a stationary series. But this degeneration takes longer than it would for a true stationary series, with the series displaying some memory. However, the memory of the shock does decay over time. Thus, a fractionally integrated system has a longer memory than a stationary series, but not the complete memory of a shock that is characteristic of a unit root series.

Simply knowing that a series is fractionally integrated or a unit root is not enough. We have to take that memory persistence and remove it from the series, so that the remaining series consists solely of actual change in the series, and the resulting series is made stationary. This is important because if a series has a long-term upward trend, then that trend could cause spurious results when modeled together with another time series,

especially if the other series also has a long-term trend. The long-term trend, while important, is not what we generally want to explain. For example, we may suspect that there will be a long-term upward trend in the viability of the leading candidates, due to their winning primaries and caucuses. But this is not what we want to know about the viability series. We want to know how viability reacts to short-term influences, such as increased media attention and candidate spending.

By testing for the order of d, we can find out what the long-term trend in a time series is and remove that trend so that we can look at the smaller fluctuations around the mean of the series. In more technical terms, what we do when we go through this process is to make the series stationary. A series that has a d level of 0 is stationary, while a series that has any other level of d is non-stationary. In order to make appropriate and full use of time series methodology, it is essential to make sure that we have stationary series.

This is necessary because when we put two series together in a model, if both have long-term trends, then we may find a spurious relationship between the series. Media coverage of a candidate could go up over time as a result of increasing interest in the campaign, or a lack of other news stories, while the viability for a leading candidate may also be going up, but due only to their winning of primaries, not the increased media coverage. If we do not make these series stationary, then we could find a relationship between the series, even though they are not actually related to each other. We want to avoid that type of mistake, so we make the series stationary.

A final methodological reason that it is important to look at the level of integration, especially with this data, is that Granger (1980) argues that the aggregation of

opinion data can lead to series that are fractionally integrated. Thus, the aggregation of expectations and preferences meets this criterion, and suggests that these series could be fractionally integrated. As is shown in chapters five and six, that is indeed the case for several of the variables in this analysis.

The level of integration of a time series is important for more than just methodological reasons. It can also have an impact on our substantive understanding of these time series. Learning whether a series contains a unit root, is fractionally integrated, or is stationary can contribute to what we know or understand about the variable. The main thing that the level of integration can tell us is what kind of memory persistence a variable has.

For example, if all of the expectation variables involving a match-up with Al Gore are stationary, then we know that campaign events will not have a lasting impact on that variable. Stationary series have short memories, and outside shocks dissipate quickly. So if all of the Gore variables are stationary, then that means that expectations about Gore's chances are relatively firm in the minds of the voters or that voters have a hard time changing their expectations of his chances. On the other hand, if all of these variables contain unit roots, then it may be the case that voters are unsure about Gore and his chances, as all outside shocks will have a permanent effect on his expectations or that voters are able to understand how the outside shocks affect his chances of winning. A fractionally integrated series falls in between these two extremes, with the memory of the outside effects lasting for a while, but not necessarily on the permanent basis that exists with a unit root.

Knowing how these variables are integrated helps us by giving us more contextual detail about the expectations themselves. There is not a clear pattern to the results of the expectations and preference variables used in chapters five and six, but there are some small things to note. First, the only series that are stationary are Democratic perceptions of Gore's chances against the Republicans. So Democratic voters appear to have had a firm understanding of his chances of winning the general election. All of the other series, however, had at least some persistence of memory, allowing outside shocks to have a lasting effect over time. This is important, because it could indicate that Democratic voters would be much less likely to allow campaign effects to influence their expectations of Gore's chances at winning in November. This could lead us to find no evidence for rational electoral expectations among these voters.

The test for a fractionally integrated series is different from the test for whether or not a series contains a unit root or is stationary. The latter test only allows for d to be either 0 or 1. To test for fractional integration, we must allow for any value of d.

I test for fractional integration using the ARFIMA procedure designed for OX, an object-oriented matrix computer programming language (Ooms and Dornik 1998). The ARFIMA procedure estimates the value of d for ARFIMA (p,d,q) models.[15] The procedure estimates the level of d for each combination of autoregressive and moving average components, from a (0,d,0) model to a (5,d,5) model.[16] The package reports the level of d for each model as well as the Akaike Information Criterion (AIC), a selection

[15] ARFIMA stands for autoregressive, fractionally integrated, moving average. Each of these is a component in the time series property of a variable.
[16] The estimation was carried out using modified profile likelihood with no trend or constant terms.

criteria that can be used to compare models (Enders 1995). The model with the smallest AIC is chosen as the best fit for the variable.

Once we establish whether a series is stationary, fractionally integrated, or contains a unit root, we can purge the series of any memory by differencing the series according to its level of integration. For unit root series (d=1), we simply take the first difference of the series, where we simply subtract out the value of the variable at t-1.

$$\textit{First difference of } Y_t = Y_t - Y_{(t-1)} \tag{3.1}$$

For a fractionally integrated series, we can fractionally difference the series, using a RATS[17] procedure, fif.src. This procedure uses the same logic as with differencing a unit root, but incorporates the appropriate level of d to difference the series. Both of these approaches leave us with series that are stationary and can therefore be used in other models.

VAR Models and Granger Causality

Once we have worked out the univariate aspects of the time series, we can move to multivariate tests of the variables. In order to test the relationships between the variables in this research, a relatively straight-forward time series approach, vector autoregression, is used. Vector autoregression (VAR) models have long been used in political science time series literature to test for such things as the relationships between government consumption, investment, and exports (Freeman et al. 1989), the differences in economic performance in Democratic and Republican administrations (Williams

[17] RATS is a computer software package designed for time-series analysis.

1990), arms race spending (Freeman 1983; Freeman et al 1998), and economic expectations and presidential approval (Freeman et al. 1998).

It is often the case in political analyses that there is no one clear dominant theory as to how different variables are related to each other. For example, two or more variables could be endogenous to each other, in that each has some simultaneous impact on the other, so that there is not always a clear causal direction between them. This is particularly problematic to many statistical models, as it requires solving for both of the variables at the same time, which is quite difficult computationally. VAR models, however, are well-equipped to deal with this problem, as they allow variables to affect each other at the same time and then show the directions of causality in the system of variables. This is done by constructing a set of regressions in which the lagged values of each variable is used to explain each of the variables in the system.

A sample standard form two-variable VAR system with one lag takes the form of:

$$Y_t = a_{10} + a_{11}Y_{t-1} + a_{12}Z_{t-1} + e_{1t} \quad (3.2)$$

$$Z_t = a_{20} + a_{21}Y_{t-1} + a_{22}Z_{t-1} + e_{2t} \quad (3.3)$$

where both Y_t and Z_t are assumed to be stationary, and the error terms e_{1t} and e_{2t} are uncorrelated white noise with standard deviations σ_y and σ_z (Enders 1995). These equations can then be solved using Ordinary Least Squares regression (Freeman et al. 1989). In these equations, the lags of each variable enter into the right-hand side of the equation for each variable. This allows each variable in the VAR system to have an effect on every other variable in the system. The equations are not solved simultaneously, but separately, and the equations allow us to see all of the potential ways

in which the variables in the system affect each other. This allows us to test multiple theories at the same time: does increased arms spending in India cause an increase in arms spending in Pakistan (Freeman 1983; Freeman et al. 1998)? Or does an increase in arms spending in Pakistan cause increased arms spending in India? Or is there a continued effect in which increases in India's spending are followed by increases in Pakistan's spending, which then cause more increases in India's spending? The use of a VAR model allows the researcher to take the time series of each country and regress them on their own series and the series of their neighbor. By doing so, we can then see which country is responsible for heightened tensions in the area. In Freeman et al.'s 1998 analysis, they analyze this question[18] and find that India's arms spending caused increases in Pakistan's arms spending, with no reciprocal causation coming from Pakistan.

VAR models are appropriate for the tests used in later chapters. For example, chapter five of this dissertation is devoted to the controversy over whether changes in expectations drive changes in preferences, or if there is a projection effect that occurs, whereby changes in preferences actually drive changes in expectations. Thus there are two competing, and somewhat opposite, theories as to the relationship between expectations and preferences. One potential approach to this problem would be to test separate models, one with preferences as the dependent variable and expectations as the independent variables, and a second model with expectations as the dependent variable,

[18] The 1998 article uses a Fully-Modified VAR model, rather than the normal VAR model. The FM-VAR model used by Freeman et al. takes into account long-memoried processes, but is similar in other respects to normal VAR models. The original Freeman analysis in 1983 used a more normal VAR approach that was estimated without taking into account the memory of the series.

and preferences as the independent variables. A different approach would be to use a two-stage least squares model. Either way, however, these models would be inadequate to answer the question at hand. The approach of using two separate models cannot address the question of causality, especially if both sets of variables are found to be significant in their respective models. The two-stage approach requires the researcher to find exogenous variables that cannot affect one of the two sets of dependent variables, which could be incompatible with the idea of a projection effect. VAR models, however, remove these restrictions by allowing for tests of both theories, and allowing the data to show what the causal relationships are between the variables.

The results of VAR models can be interpreted through the calculation of Granger causality tests. These tests ask the question of whether or not a specific time series is best explained by just its own past values, or history, or if the series is better explained by its own history plus the history of a second series (Pierce 1977). If the effect of the second series is statistically significantly different from zero, then that series is said to Granger cause the first series.

Granger causality tests are block tests of exogeneity that are carried out by conducting F-tests of the coefficients on the right-hand side of the equation for each variable. The coefficients for the lags of each individual variable in a single equation are grouped together and then tested to see if their joint impact on the dependent variable of that equation is statistically significant. If it is, then that variable is interpreted as Granger-causing the dependent variable of that equation.

For example, the Freeman et al. (1998) test of the India-Pakistan arms race is interpreted through Granger causality tests. The set up of these tests is to see if the lags

of the India and Pakistan arms race series each have a joint statistical significance level different from zero when they are both regressed on each other. Their results show that the lags of the Indian arms spending series are statistically significant when entered into the equation where India's spending is the dependent variable and the equation where Pakistan's spending is the dependent variable. The lags of the series for Pakistan, however, are not statistically significant in the equation where Indian spending is the dependent variable. This means that Indian arms spending Granger-causes Pakistani arms spending, leading to the conclusion that Pakistan increases its spending in response to increases in spending by India, but India does not increase its spending in response to increases in spending by Pakistan, therefore Indian arms spending is responsible for increases in arms spending by the rivals.

This is a fairly simple and straightforward way to test whether or not changes in one series cause changes in another one. It fits well with the framework of the rational electoral expectations theory and allows for good tests of the theory. If expectations are rational, then they should be influenced by flows of information about the candidates. Viability and electability, therefore, will be best explained by their own history plus the histories of media coverage and candidate expenditures. By using VAR models and Granger causality tests, we can look at this relationship directly, while allowing for the possibility that expectations might also drive media coverage and/or candidate spending—which would be an important finding in its own right, though the existence of such a relationship would cause much concern for the theory of rational electoral expectations.

Fractional integration, vector autoregression models, and Granger causality tests form the basis of the time series methods that will be used to test the theory of rational electoral expectations. A few other time series techniques, such as impulse response functions, are also used to provide further insight into the results, and those techniques will be explained as they are used.

3.6 Conclusion

The 2000 presidential nomination campaigns should provide a tough test for the theory of rational electoral expectations. The major candidates were all somewhat well-known and well-financed. Media coverage of each candidate was plentiful. And the primary schedule was compact, with the races over fairly quickly. As a result, expectations in the 2000 primaries might not have been as variable as they were in the past.

In order to test this theory, I will use a combination of data on expectations, media coverage, and campaign expenditures to see how and why expectations changed over the course of the 2000 election. The data and methods outlined above are appropriate for these purposes, and will allow us to gain a greater understanding of the process of nominating, and eventually electing, candidates for office in the United States. We can now turn to the influence of expectations on outcomes.

CHAPTER 4

VOTER DECISION-MAKING IN THE 2000 PRESIDENTIAL PRIMARIES: DO EXPECTATIONS MATTER?

Expectations play a large role in determining how people vote in primary elections. The goal of the primaries is to nominate a candidate who will win the general election, so someone who is unable to win in November should not be nominated, and the person with the greatest chance of winning in November should be nominated, all other things (such as ideology) being equal. There is little reason to waste one's vote in a primary, so candidates who are not viable should not receive much support, as people have to invest a lot of time and effort in order to vote in primaries. As a result, people will not want to waste their votes, and will only vote for those who are viable candidates. Thus expectations of a candidate's chances of winning election should matter in primaries.

This chapter outlines how expectations influence individual vote choice and establishes them as an important facet of vote choice in primary elections. Using data from the 2000 National Annenberg Election Survey, I look at the 2000 presidential nominations in detail, comparing an expectations-based model of vote choice to an attitudinal-based model of voting behavior, and then combining them together into one model. The latter approach not only demonstrates the critical importance of expectations,

but also represents an advancement in the literature on primary voting behavior by bringing these two types of models together into one.

4.1 Cross-Sectional Analysis

A first step in establishing the importance of expectations on vote choices in nominations is a pooled cross-sectional model of vote choice. I begin this analysis by pooling responses from the 2000 Annenberg study into one dataset. Since these individual observations were recorded over a period of time, it may be the case that assessments of a candidate's electability in December of 1999 may be different from assessments of electability in March of 2000. However, individual vote choices should be made through similar processes, whether they are made in December or March. As such, pooling the responses should be theoretically appropriate and allows us to look into the individual-level vote choice.[19]

There have generally been two approaches to explaining vote choice in primary elections. The first approach, associated primarily with Norrander (1986a; 1986b; 1992; 1996), is to adapt what we know about voting behavior in general elections. This is not always the best approach, however, as candidates for a party's nomination all belong to the same party, have similar issue and ideological stances, and may appeal to similar demographic groups. Additionally, the goal of voters in primary elections is slightly different, in that they are also looking to nominate a candidate that will give them a good chance of winning the general election. So this leads to a second approach towards

[19] Where the pooling of the responses from a broad time range can be problematic is in the standard errors of the estimates. I deal with this potential problem by using robust standard errors based on the day of interview when calculating multivariate models.

voting behavior in nomination campaigns, which focuses on the expectations of a candidate's chances of winning the nomination and/or the general election (e.g. Bartels 1988; Abramowitz 1989; Stone, Rapoport, and Abramowitz 1992). These two approaches are often kept separate, although some attempts have been made to merge them by bringing in the idea of expected utility, which discounts the utility a voter would gain from voting for a specific candidate who shared their ideology or issue positions by the chances of that candidate actually winning the election (e.g. Abramson et al. 1992; Stone, Rapoport, and Atkeson 1995). However, this approach often leaves out other attitudinal factors that may influence the vote choice, such as party identification or group memberships. The 2000 presidential nominations present an instance in which all of these factors may have had an impact on voting decisions.

4.2 Party Identification

Party identification in primaries is usually not a factor that is thought to directly affect vote choice. Most voters in primary elections are strong partisans, who would not vote for members of the other party. Additionally, all of the candidates in a party primary are already members of the same party. Therefore, attempting to use party identification as a vote determinant in primaries is usually not going to get a researcher very far. In the 2000 election, however, the strength of a person's party identification may have entered into the race via the candidacy of John McCain. The McCain campaign made a point of reaching out to disaffected Democrats and Independents in states with open primary laws. In open primary states, voters need not vote for the party with which they are registered: instead the voters declare which party primary they want to vote in, and then vote only in

that primary. In closed primary states, only registered members of the party are allowed to vote in that party's primary. Additionally, some states, such as Ohio, do not require voters to register as being a member of a particular party, though they must state a preference for one party if they wish to vote in the primary.

Due to the wide variation in primary and party registration rules, to most accurately look at the respondents who would vote in their state's primary, the respondents are split according to what party primary they planned to vote in, rather than being assigned to the party that they identify with. This allows us to take into account all supporters of a candidate who plan to vote for him, rather than just those who are party identifiers or registered members of the party.

In most primary campaigns, however, candidates do not make active appeals to supporters of the other party. The McCain exception is worth a closer look, and may provide deeper insight into the modest success of his candidacy. One explanation for why McCain sought out cross-over voters is that he used this to help generate the appearance of being able to win moderate Democrats and Independents, thereby strengthening his appeal as a candidate who could win in November. Thus the attempt at gathering cross-over support was an attempt at raising voter assessments of his electability.

While McCain's goal may have been to use his support among non-Republican identifiers as a way to boost his perceived electability, it did not secure him the nomination. When looking at those who planned to vote in their state's Republican primary, McCain did perform much better among self-identified Independents (including Democratic and Republican leaners) and Democrats than he did among self-identified

Republicans. The percentage of Independents and Democrats that preferred McCain was more than twice the percentage of Republicans that preferred him. However, Bush was still preferred by more voters in each group.

Among those planning to vote in the Democratic primary, the pattern changes slightly, with Bill Bradley winning a majority of Republican identifiers that registered support for a Democratic candidate. Bradley also performs much better among Independents than among Democratic identifiers, and his increase in vote share is about the same magnitude as McCain's was among Independents versus Republican identifiers (21% gain for Bradley versus 23% for McCain).

Table 4.1 About Here

This pattern shows that party identification may be important to some extent when there is an establishment candidate, such as Bush or Gore, and a challenger that is not favored as much by the establishment, such as McCain or Bradley. In these types of nomination battles, the stronger partisans may line up with the establishment candidate, as occurred in 2000, while independents and cross-over voters might be more likely to jump to a challenger. But what makes certain candidates favored by the establishment and stronger partisans? Ideology? Issue stands? Or their ability to eventually win election and enact those policies favored by the party establishment?

4.3 Socio-Economic Status and Group Memberships

Another factor that is often used to explain vote choice in general elections is socio-economic status (SES) and membership in certain groups. A person's SES status may also be related to what party they are a member of, and thus may only explain which

primary they are voting in, rather than who they are voting for. None of the candidates for the 2000 nominations made overt appeals to specific classes during the nomination campaign, and it is not expected to be a major factor in voter decision-making.

As Table 4.2 shows, SES does not appear to have been a particularly large factor in vote choice. The only difference in SES status comes in the household income of McCain supporters, which was slightly higher than the median income level of the voters of the other candidates. Educational level was remarkably stable across the four candidates, with the median level of education for each group of voters falling into the category of having some college.[20]

Table 4.2 About Here

The same logic in arguing against the impact of SES can be extended to group memberships. African-Americans vote for the Democratic candidate 90% of the time in general elections, but in primary elections there is no reason to believe that race would be a major factor, unless a minority candidate was seeking the nomination. In 2000, the only minority candidate for either party nomination was Alan Keyes, whose candidacy for the Republican nomination was largely unsuccessful. For the most part, group dynamics do not appear to have much mattered in the Republican race, with very little differentiation between groups.

Table 4.3 About Here

[20] For the analysis, the response categories of "some college, no degree" and "Associates or two-year college degree" are combined into the category of "some college".

On the Democratic side, Bill Bradley may have held some special appeal to blacks and men, due to his status as a former professional basketball player. NBA coach Phil Jackson, a former teammate of Bradley on the New York Knicks, campaigned for him and also talked former NBA player Michael Jordan into publicly supporting Bradley's campaign. As a result of their endorsements, we might expect that Bradley would perform better among these groups, where Jackson and Jordan have high popularity and name recognition. However, Bradley actually performed worse among blacks than he did overall, winning only 21.9% of the black vote, compared to 31.3% of the overall Democratic vote. He did, however, perform better among men than he did overall, winning 36.5% of the male vote, his largest demographic. This was off-set in part, however, by his poor showing among women, where he won only 28% of the vote.

4.4 Issues: Campaign Finance and Abortion

Another factor that can have an impact on general elections is the position of candidates on certain issues. The role of issues in a primary election is complicated by the fact that candidates can find it hard to clearly distinguish themselves on more than one or two issues. In the 2000 primary elections, the clearest issue difference was on campaign finance, in which McCain and Bradley tried to separate themselves from the frontrunners by touting their own reform plans. Gore was weakened on this issue by ties to potential fund-raising scandals in the 1996 Clinton-Gore reelection campaign, and Bush had raised such record-breaking amounts that he could not credibly establish strong reform credentials.

The campaign finance issue did not win Bradley or McCain the nominations, but there may be several reasons for this. First, the issue may not have been important to voters in the primaries. Not every voter makes his or her decision solely on the campaign finance issue. Second, the candidates may not have been able to distinguish themselves on the issue. This is less likely, since McCain and Bradley both placed the issue at the forefront of their campaigns. Third, they may have simply been on the wrong side of the issue, and more voters may prefer to not have campaign finance reform. This might be more likely for Republican voters, who benefit more from the current system of campaign finance.

Two questions relating to campaign finance can help to illustrate the failure of the reliance of the challengers on the campaign finance issue. One question asked respondents if the federal government should limit contributions to parties. On the Democratic side, 68% of the respondents who favored such limitations preferred Gore, while a similar 70% of those who did not favor the limitations also preferred Gore. On another campaign finance question, how much the federal government should spend on public financing of campaigns (ranging from none to less to same to more), Gore even won a 60% majority of those who supported the federal government spending more on public financing of campaigns.

Table 4.4 About Here

In the Republican race, McCain fared only slightly better than Bradley in getting across his message of reform. Of the Republican voters who wanted more federal government spending on campaign finance, McCain won only 49.2% of those supporters,

and did much worse among those who felt the federal government should spend the same amount or less. And considering that only 10% of voters in the Republican race fell into the category of wanting more federal spending, it is easy to see that the issue was not a big winner for McCain. Even among those who felt that the government should limit the amount of money given to the parties (a somewhat surprising 78% of Republican voters), McCain won only 33% of their votes. While campaign finance may have brought in voters to the McCain and Bradley campaigns, it was simply not enough to overcome other factors that propelled Bush and Gore to the nominations.

Table 4.5 About Here

Another issue that often plays a large role in electoral politics is abortion. On this issue, there was a clear difference between supporters of McCain and Bush. McCain won a larger share of the vote of those who opposed restrictions on abortion than he did of those who wanted such restrictions. Table 4.6 shows that McCain won the support of only 21.4% of those who wanted federal restrictions on abortion, but won 37.5% of those who opposed such restrictions. This difference may be due in part to cross-over voters for McCain who were more pro-choice than Republican activists. Additionally, Bush was strongly supported by the Republican establishment and party leaders, who tend to be strongly pro-life. Bush also specifically appealed to pro-life voters, in part because his father did not establish a strongly pro-life record, leading to a nomination challenge by Pat Buchanan in 1992. By appealing to pro-life voters, the younger Bush sought to strengthen his support among the more conservative elements of the Republican Party, and thus attempted to avoid his father's fate.

Table 4.6 About Here

Among voters in the Democratic primary, there was little difference between Bradley and Gore in terms of abortion. Gore won a little more than two-thirds of both those who wanted restrictions on abortion and those who did not. This may be due in part to the fact that Democratic voters were much less split over abortion, with 75% of the Democratic voters opposing restrictions on abortion, as opposed to the 58% of Republican voters that opposed restrictions. Both Gore and Bradley had established themselves as pro-choice candidates, so there was little reason for voters to change their vote over the issue.

Table 4.7 About Here

One of the most important factors in national elections is the performance of the economy. This usually benefits the incumbent or incumbent party if the economy is performing well, and punishes the incumbent or incumbent party if it is doing poorly. In 2000, the economy was still performing nicely, and Gore, as the incumbent Vice-President, should have been able to capitalize on that success. The state of the economy should have mattered very little for the Republican race, as neither Bush nor McCain could claim direct credit for the economy. Unfortunately, the Annenberg study did not include questions on the economy during the nomination phase of the study, and as a result, it is not possible to analyze the effect that this issue may have had on the Democratic race.

4.5 Ideology

One argument for using expectations to explain vote choices in primaries is that the candidates for a party's nomination are often indistinguishable in their ideological positions. Candidates try to appeal to their party activists, who are often considered to be more extreme in their beliefs than the general electorate.[21] The data for the 2000 election, however, shows that the candidates for their party nominations did manage to establish separate ideological identities from each other. What is interesting is how these ideological identities matched up with the candidates who eventually won.

In Table 4.8, the perceived ideologies for each candidate are shown, along with the average ideologies for the members of the two parties. Higher values indicate more liberal ideologies, while lower values indicate more conservative ideologies. As the table shows, Bush and Gore, the eventual nominees, were perceived as being the most conservative and liberal, respectively, of the four major candidates, and were perceived as more extreme than the average party member.

Table 4.8 About Here

To test whether or not the perceived differences between these candidates' ideologies was significant, at least in the minds of voters, paired sample t-tests were conducted. The results, presented in Table 4.9, show that each of these ideological

[21] There has been considerable debate over this claim as to whether or not primary voters are more ideologically extreme than either the main party following or the general electorate, and, as a result, produce more ideologically extreme nominees than most voters would prefer. See Geer (1989), Ladd (1978), Lengle (1981), and Norrander (1986, 1989) for more on this debate.

differences were statistically significant, implying that voters were able to distinguish some difference between the major candidates' ideologies.

Table 4.9 About Here

If voters use a spatial model and vote for the candidates that are closest to them ideologically, then expectations might not be as important as we think. But we find that individual ideology does not match up well to perceived ideologies and vote choice. When individual ideologies are broken down by who the individual respondent was voting for, we might expect that Gore supporters would be the most liberal, and Bush supporters the most conservative. As shown in Table 4.10, this is not the ideological pattern that we find. Bradley supporters were more liberal in their personal ideology than Gore supporters; however, this difference was not statistically significant. Gore supporters were not only more conservative, but they were more conservative than Democratic Party identifiers, whose mean ideological position was almost exactly the same as Bradley supporters, though again, none of these differences were statistically significant. Bush supporters were still more conservative than McCain supporters, which is not surprising, given McCain's strategy of appealing to independents and moderates in both the Republican and Democratic. Bush supporters were also more conservative than Republican Party identifiers, though the difference was statistically insignificant.

Table 4.10 About Here

The evidence for ideology is inconclusive, at best. There are significantly different perceptions of the candidates' ideologies; however, only the McCain supporters'

average ideology was significantly different from other groups. If voters were supporting the candidate closest to them ideologically, then we should be able to see a much clearer pattern relating personal ideologies to perceptions of candidate ideologies. As a result, the spatial model appears to be inadequate in explaining voter choice in primaries, and we must look to other variables to help inform us about voter preferences.

These results also touch on a different debate in the literature alluded to earlier: the question of whether or not primary voters are more ideologically extreme than other partisans and voters, and as a result produce more ideologically extreme candidates. While the identifiers of both parties are more ideologically extreme than all respondents combined, and more extreme than self-identified independents, the candidates the two parties nominated were, in both cases, perceived as more extreme than the party identifiers and other groups. However, the people who supported Al Gore were actually *less* extreme than the Democratic Party identifiers. Thus the findings show that while the supporters of the winning candidates were only more extreme in the case of the Republican Party, they still produced candidates that were perceived as being more ideologically extreme than either group of partisans (or non-partisans) in the sample.

4.6 What is Missing?

If these variables do not make much of a difference in explaining vote choice, then what is left for voters to make decisions on? The candidates themselves can make a large difference in voters' decisions: more specifically, they can influence the perception of what the chances are of those candidates winning election, be it the nomination or general election. The ultimate goal of voters in any election is to elect a candidate who

will enact their favored policies. In a nomination contest, the only way to do that is to elect a candidate who can win the general election. And the only way to elect a candidate in the general election is to select a candidate who will win the party nomination.

Thus, if we expect voters to act rationally, then candidates who are not expected to do well in either the nomination contest or the general election are unlikely to be nominated, as they will not be able to ultimately enact the voters' preferred policies. Therefore even if Bill Bradley is perfectly aligned with Democratic primary voters' issue positions, if he has no chance at winning the general election, he should not win the Democratic nomination. If voters are rational in making decisions, then they will support the candidate that has the highest chance of winning the general election, all other things being equal.

Therefore, the most rational method for voters in primary elections to make the decisions about who to vote for is to assess candidates based on their likelihood of winning their party nomination and the general election. If the ideological, issue, and other differences are relatively small between the candidates, then voters should care only about who is most likely to be able to carry out those policies. Thus we must turn to expectations as an important factor in determining the vote in primary elections.

4.7 Models of Vote Preference

The perceived viability and electability of candidates for a party's nomination are expected to have considerable impact on the vote choices of voters in primary elections. The role of expectations in influencing voting decisions is shown in two separate multivariate analyses, the first a pooled cross-sectional analysis, presented in this chapter,

and the second a time-series analysis presented in the next chapter. In this chapter, three models of voting behavior in primary elections are compared: an attitudinal model that uses variables common to general election voting models; an expectations-based model that uses only assessments of candidate electability and viability to predict vote preference; and a combined model in which attitudes and expectations are brought together to provide a more cohesive picture of how vote preferences are structured in a primary election.

The Attitudinal Model

The first model of vote choice in primary elections tests standard general election voting behavior variables of party identification, ideology, issues, and demographics. For neither party does the model perform particularly well, and the results are not consistent across parties.

Only two variables are statistically significant for both the Democrats and Republicans—party identification and education. In both cases, if a person is a self-identified partisan of the relevant party, they were more likely to vote for their party's favored candidate, Bush or Gore. Bradley and McCain were waging campaigns of outsiders, and clearly appealed mostly to weak partisans and independents. Unfortunately for the challengers, stronger partisans are more likely to vote in primaries, thus their strategies were not optimal for nomination campaigns.

More interesting is the role of education in both models. In both cases, the more education a person had, the less likely they were to vote for the frontrunners. This holds with the general ideas set out in chapter one: the frontrunners in a nomination battle have

more information available to the voters, and challengers struggle to get the message out about their campaigns. Only more educated citizens are likely to be well informed about the challengers, and as a result, the challengers will be less successful amongst those with less education and less information about their campaigns. This suggests some preliminary support for the process of rational expectations at the individual level.

For the other variables in the models, there are differences between the Democratic and Republican models. In the Democratic race, demographics appear to have been of more importance, with women and non-whites more likely to have preferred Gore than Bradley, even when controlling for party identification. However, for the Republicans, voters appeared more concerned with issue differences, as ideology and both issue variables come out statistically significant. In each case, the more conservative a response (to restrict abortion and to not limit contributions to parties), the more likely the respondent was to support Bush. Moderate and liberal voters were more likely to vote for McCain, which is not surprising, given that he appealed directly to independents and disaffected partisans, while Bush had made a point in his campaign of reaching out to the conservative voters that abandoned his father in favor of Pat Buchanan in the 1992 Republican primaries

The main problem with these models is that they do not do a particularly good job of predicting the vote for either party. The models both predict about 70% of the cases correctly, however when compared to predictions based on the modal categories of the dependent variables, the models do not actually perform all that well, providing only about a 5% improvement in predicting Democratic preference and a 9% improvement on the Republican side. The standard models of voting behavior in general elections are not

expected to perform as well in primary campaigns, and they do not, so we can turn to variables that are more specific to primary elections.

Table 4.11 About Here

The Expectations Model

Individual voters in the primaries make their own assessments of the likelihood of a candidate to win the nomination and general election. Using a model constructed solely of expectations as explanations for vote preference in the 2000 nominations, I find that expectations are highly significant factors that do a much better job of explaining vote preference than the attitudinal model. Looking solely at the adjusted count R^2, the expectations models present a dramatic improvement over the previous models. Whereas the attitudinal model provided only a 5% and 9% improvement over picking just the modal category, the expectations models provide a 30% and 43% increase in accuracy in predicting the preferences of the Democratic and Republican voters.

Additionally, all of the expectations variables are statistically significant. As voters increased a candidate's likelihood of winning either their party nomination or the general election, they became more likely to vote for that candidate. This is what should be expected, as voters should not vote for a candidate that is less likely to win.

Table 4.12 About Here

The Combined Model

While expectations of a candidate's chances do a better job of predicting vote preference than the previous attitudinal model, adding in the attitudinal variables makes

the models even stronger (as shown in Table 4.13). Not only are the expectations variables still highly significant for models of both parties' voters, but measures of goodness of fit also increase from the more basic models to the models incorporating both expectations and attitudes as explanatory variables. The Adjusted Count R^2's for the combined models show that the models predict an additional 36% and 46% of vote preference, a vast improvement over the more basic models.

Party identification and education both maintain their role as statistically significant factors in determining voting decisions in the combined model. The only changes among the standard variables are that income becomes statistically significant in the Republican model and views on restrictions on abortion gain statistical significance in the Democratic model, while gender drops its statistical significance. All other variables retain the same level of statistical significance, and the only variable that changes sign is in the Democratic race, with the coefficient for limiting contributions to parties, though it is not statistically significant in either model.

All of the expectations variables—viability and each pair-wise electability—are statistically significant and in the expected theoretical directions. As assessments of Gore's chances of winning the nomination or general election go up, so too does the likelihood of a person voting for him. As Bradley's electability goes up, the probability of voting for Gore goes down. The same pattern holds in the Republican race, with increases in Bush's expectations leading to a higher probability of voting for him, and increases in McCain's expectations leading to a lower probability of voting for Bush.

This follows what we should expect, as voters look to vote for the candidates who they feel will perform best, be it in the nomination phase or in the general election. The

challengers were able to attract weak partisans and more liberal voters, but could not overcome the perceptions that they would be unable to win the general election for their party.

Table 4.13 About Here

Although expectations are clearly important, their importance is somewhat mitigated by looking at the first differences for the variables in the combined model. While each of the expectations has a large first difference, party identification, race, and views on abortion each have just as strong an impact as do expectations in the Democratic model. This is even more notable in that these variables did not have as large of an impact in the model that was made up of strictly attitudinal and demographic variables. On the Republican side, the two issue questions both have first differences that are of similar magnitude to the first differences for the expectations variables. So although expectations clearly have an important impact, it is not possible to rule out all attitudinal effects on vote preferences in nomination campaigns. Nonetheless, these models make it clear that expectations are necessary in order to fully and more accurately model vote preferences in primary elections.

4.8 Conclusion

This chapter has established the importance of expectations in individual vote choices in primary elections. Standard models of vote choice in general elections are not adequate by themselves to understand voting behavior in primary elections. Party identification, ideology, and issues can have some impact on vote choice, but they are not

sufficient by themselves to predict vote preferences very well. The differences on issues between candidates for a party's nomination are small enough that voters must also look to see which candidate is most likely to win election, and thus be able to enact those issue preferences. The impact of expectations is thus a crucial factor in determining who voters decide to support.

This is not to say that there are not potential pitfalls in using expectations to explain voting decisions in primaries. One problem that has often been identified with expectations is the possibility of a projection effect (Abramson et al. 1992; Bartels 1985, 1988; Brady and Johnston 1987), in which expectations are influenced as much by voter preferences as they are by anything else. Under this problem, respondents attribute higher chances of winning the nomination and/or general election to the candidate that they prefer, as they would like to think that they are voting for a winning candidate. This in turn essentially biases the data so that higher expectations will always be associated with vote preferences. Projection effects are difficult to deal with under cross-sectional data, and it is worrisome for the vote choice model if projection effects are a significant problem. In a previous test (Abramson et al. 1992), projection effects were found to have existed in viability ratings, but were not judged to be a serious problem and did not have a major impact on the authors' substantive findings.

In order to test for projection effects, as well as providing additional support for the role of expectations in determining vote choice in primary elections, it is useful to see how expectations and vote preferences change over time. The Annenberg data allows us to measure each variable daily over a period ranging from December 14th to April 4th. Since both John McCain and Bill Bradley dropped out of the race on March 9th, no

observations after that point should be used. By using this daily time-series, we can see whether changes in expectations precede changes in vote choice. If so, we should not be overly concerned by projection effects. If instead we find that changes in vote preferences precede changes in expectations, then we might be concerned that projection effects are problematic for this data.

The next chapter, in part, tests for the effects of projection, and also shows the interaction of expectations and candidate support over the course of a campaign through the use of time series models. Doing so more accurately models the dynamic influence of expectations over time. Not only will this show how expectations change over the course of a campaign, but also how they have a direct influence over levels of candidate support, which also change over time, in a nomination campaign.

	Bush Supporters	McCain Supporters	Gore Supporters	Bradley Supporters
Democrats	54.05%	45.95%	75.21%	24.79%
Independents	55.21%	44.79%	54.74%	45.26%
Republicans	78.44%	21.56%	43.33%	56.67%
Overall	**69.68%**	**30.32%**	**68.66%**	**31.34%**

Table 4.1 Candidate Preference by Party Identification

	Median Education Level	Median Household Income Category
Gore Supporters	Some college	$35,000-50,000
Bradley Supporters	Some college	$35,000-50,000
Bush Supporters	Some college	$35,000-50,000
McCain Supporters	Some college	$50,000-75,000

Table 4.2 Socio-economic Status and Vote Preference

	Gore Supporters	Bradley Supporters	Bush Supporters	McCain Supporters
White	65.6%	34.4%	69.7%	30.3%
Black	78.1%	21.9%	72.3%	27.7%
Women	72%	28%	71.4%	28.6%
Men	63.5%	36.5%	68.1%	31.9%
In a union household	68.6%	31.4%	67.2%	32.8%
Not in a union household	68.7%	31.3%	70%	30%
Married	68.1%	31.9%	70.4%	29.6%
Not Married	69.3%	30.7%	68.4%	31.6%
Overall	**68.7%**	**31.3%**	**69.7%**	**30.3%**

Table 4.3 Group Memberships and Vote Preference

	Limit contributions to parties	Do not limit contributions to parties
Gore Supporters	68.0%	70.4%
Bradley Supporters	32.0%	29.6%

Table 4.4 Campaign Finance Views and Democratic Vote Preference

	Limit contributions to parties	Do not limit contributions to parties
Bush Supporters	66.6%	79.7%
McCain Supporters	33.4%	20.3%

Table 4.5 Campaign Finance Views and Republican Vote Preference

	Federal government should restrict abortion	Federal government should not restrict abortion
Bush Supporters	78.6%	62.5%
McCain Supporters	21.4%	37.5%

Table 4.6 Abortion and Republican Vote Preference

	Federal government should restrict abortion	Federal government should not restrict abortion
Gore Supporters	69.3%	68.0%
Bradley Supporters	30.7%	32.0%

Table 4.7 Abortion and Democratic Vote Preference

	Perceived Gore Ideology	Perceived Bradley Ideology	Self-identified Democrats' ideology	Perceived McCain Ideology	Self-identified Republicans' ideology	Perceived Bush Ideology
Ideology: 1=Very Conservative, 5=Very Liberal	3.4	3.2	3.2	2.6	2.4	2.4

Table 4.8 Perceived Candidate Ideologies and Party Ideologies

	Mean Difference (Std. Dev.)	p-value
Gore Ideology – Bradley Ideology	0.25 (1.092)	0.000
Bush Ideology – McCain Ideology	-0.29 (1.070)	0.000

H_o: Mean1 – Mean2 = 0

Table 4.9 T-tests of the Difference Between Perceived Candidate Ideologies

	Bradley Supporters	Self-identified Dems	Gore Supp-orters	Self-identified independ-ents	All respon-dents	McCain Support-ers	Self-Identified GOPs	Bush Supp-orters
Ideology 1=Very Conser-vative 5= Very Liberal	3.2	3.2	3.2	3.0	2.8	2.7	2.4	2.4

Table 4.10 Ideologies of Partisans and Candidate Supporters

	Gore vs. Bradley	First Difference	Bush vs. McCain	First Difference
Constant	-0.011		3.266	
	(0.420)		(0.358)	
Party identification	0.742***	8.6%	-0.716***	-8.8%
(3=Democrat,	(0.095)		(0.096)	
1=Republican)				
Ideology	-0.037	-0.7%	-0.221***	-3.8%
(5=Liberal,	(0.074)		(0.073)	
1=Conservative)				
White	-0.417***	-8.5%	-0.249	-4.9%
(1=Yes, 0=No)	(0.141)		(0.220)	
Female	0.378***	8.1%	0.107	2.2%
(1=Yes, 0=No)	(0.122)		(0.104)	
Married	0.060	1.3%	0.045	0.9%
(1=Yes, 0=No)	(0.134)		(0.121)	
Union household	-0.090	-1.9%	-0.002	-0.0%
(1=Yes, 0=No)	(0.135)		(0.187)	
Education	-0.143***	-7.0%	-0.070**	-3.1%
	(0.026)		(0.030)	
Income	-0.028	-1.2%	-0.014	-0.6%
	(0.038)		(0.036)	
Restrict abortion?	-0.211	-4.6%	0.672***	13.4%
(1=Yes, 0=No)	(0.143)		(0.127)	
Limit contributions	-0.009	-0.2%	-0.579***	-11.0%
to parties?	(0.159)		(0.150)	
(1=Yes, 0=No)				
	N=1455	% Predicted Correctly = 69.5%	N=1592	% Predicted Correctly = 71.9%
	Adjusted Count R^2 = 0.047[22]		Adjusted Count R^2 = 0.086	

Coefficients in columns 2 and 4 are logit estimates, with robust standard errors based on date of interview. Columns 3 and 5, are the probability change of voting for either Bush or Gore given a certain unit change in the independent variable. For dichotomous variables, the first difference is computed as a change from 0 to 1. For all other variables, the first difference is calculated as a one standard deviation change around the mean of the variable (Long 1997).

*** p< .01

** p< .05

Table 4.11 Vote Preference by Attitudinal and Demographic Variables

[22] The Adjusted Count R^2 statistic is a measure of goodness of fit that takes into account the probability of a correct guess by simply picking the most commonly occurring value of the dependent variable.

	Gore vs. Bradley	First Difference	Bush vs. McCain	First Difference
Gore Viability	0.021*** (0.003)	11.0%	--	--
Gore Electability if Bush vs. Gore	0.027*** (0.004)	14.3%	--	--
Gore Electability if McCain vs. Gore	0.024*** (0.003)	12.4%	--	--
Bradley Electability if Bush vs. Bradley	-0.020*** (0.003)	-10.5%	--	--
Bradley Electability if McCain vs. Bradley	-0.013*** (0.003)	-6.9%	--	--
Bush Viability	--	--	0.046*** (0.005)	19.6%
McCain Viability	--	--	-0.023*** (0.005)	-11.65%
Bush Electability if Bush vs. Gore	--	--	0.018*** (0.004)	9.09%
Bush Electability if Bush vs. Bradley	--	--	0.019*** (0.004)	8.61%
McCain Electability if McCain vs. Gore	--	--	-0.014*** (0.005)	-7.03%
McCain Electability if McCain vs. Bradley	--	--	-0.027*** (0.004)	-13.1%
	N=1390	% Predicted Correctly = 76.2%	N=1356	% Predicted Correctly = 79.3%
	Adjusted Count R^2 = 0.303		Adjusted Count R^2 = 0.431	

Coefficients in columns 2 and 4 are logit estimates, with robust standard errors based on date of interview. Columns 3 and 5, are the probability change of voting for either Bush or Gore given a certain unit change in the independent variable. For dichotomous variables, the first difference is computed as a change from 0 to 1. For all other variables, the first difference is calculated as a one standard deviation change around the mean of the variable (Long 1997).

*** p< .01

** p< .05

Table 4.12 Vote Preference by Expectations

	Gore vs. Bradley	First Difference	Bush vs. McCain	First Difference
Constant	-2.042	---	2.248	---
	(0.583)		(0.834)	
Party identification	0.685***	7.5%	-0.599***	-7.4%
	(0.126)		(0.143)	
Ideology	-0.090	-1.6%	-0.297**	-5.0%
	(0.088)		(0.129)	
White	-0.567***	-10.6%	-0.469	-8.7%
	(0.181)		(0.317)	
Female	0.240	4.8%	0.142	2.9%
	(0.147)		(0.137)	
Married	0.036	0.7%	0.229	4.7%
	(0.184)		(0.175)	
Union household	-0.076	-1.5%	-0.265	-5.6%
	(0.158)		(0.198)	
Education	-0.132***	-6.0%	-0.101***	-4.4%
	(0.035)		(0.039)	
Income	-0.057	-2.2%	-0.094**	-3.7%
	(0.046)		(0.048)	
Restrict abortion?	-0.473**	-10.0%	0.570***	11.3%
	(0.195)		(0.202)	
Limit contributions to parties?	0.008	0.2%	-0.787***	-14.5%
	(0.184)		(0.200)	
Gore Viability	0.023***	11.5%	---	---
	(0.004)			
Gore Electability vs. Bush	0.026***	13.2%		
	(0.004)		---	---
Gore Electability vs. McCain	0.025***	12.1%		
	(0.004)		---	---
Bradley Electability vs. Bush	-0.021***	-10.6%		
	(0.003)		---	---
Bradley Electability vs. McCain	-0.015***	-7.6%		
	(0.003)		---	---
Bush Viability	---	---	0.045***	18.9%
			(0.005)	
McCain Viability	---	---	-0.026***	-12.4%
			(0.006)	
Bush Electability vs. Gore	---	---	0.016***	7.6%
			(0.005)	
Bush Electability vs. Bradley	---		0.016***	7.1%
			(0.004)	

McCain Electability vs. Gore	---		-0.014***	-6.9%
			(0.005)	

McCain Electability vs. Bradley	---	---	-0.029***	-13.7%
			(0.005)	

Table 4.13 Vote Preference by Expectations, Attitudinal, and Demographic Variables

(CONTINUED ON NEXT PAGE)

Table 4.13 (Continued)

	N=1188	% Predicted Correctly = 77.9%	N=1120	% Predicted Correctly = 80.4%
	Adj. Count R^2 =0.363		Adj. Count R^2 =0.461	

Coefficients in columns 2 and 4 are logit estimates, with robust standard errors based on date of interview. Columns 3 and 5, are the probability change of voting for either Bush or Gore given a certain unit change in the independent variable. For dichotomous variables, the first difference is computed as a change from 0 to 1. For all other variables, the first difference is calculated as a one standard deviation change around the mean of the variable (Long 1997).

*** $p < .01$
** $p < .05$
* $p < .10$

CHAPTER 5

A TIME SERIES ANALYSIS OF VOTE PREFERENCE IN THE 2000 PRESIDENTIAL PRIMARIES

In the preceding chapter, we see that at the cross-sectional level, vote preference in primary elections is strongly influenced by expectations of candidate chances. Both viability and electability play important roles in how individuals decide which candidate to vote for. Previous research has also shown, however, that levels of support for the candidates change during the campaign, as do expectations of the candidates' chances of winning. This leads to the question of how and why expectations and vote preferences change over the course of the campaign. Do vote preferences change over time in response to changes in expectations? Or do expectations change in response to vote preferences? Or do expectations change in response to non-individual level factors? This chapter and the next chapter address each of these questions.

A first step in determining how and why expectations change over a campaign is to rule out the projection of vote preferences as a potential explanation. If vote preference does indeed determine expectations, then these variables are not as important as we expect them to be, and past research that bases vote preferences on expectations could be fundamentally mis-specified. If, however, expectations are not determined by vote preference, then the role of expectations in determining vote preference is clearly

important, and we should look for other reasons as to why expectations change over the course of a campaign.

To test the relationship between expectations and vote preference, we can look at aggregate level change over the course of the campaign. If changes in vote preference precede changes in expectations, then expectations are less important than we expect them to be, as they are merely the products of a projection effect from vote preference. If changes in expectations precede changes in vote preferences, then our understanding of vote choice in primary elections is strengthened, and we should then look to see what factors influence expectations.

To test this question of which variable influences the other, I aggregate the vote preference and expectations variables into separate daily time series, and then use time-series methods to see which set of variables best explains the other. In order to do so, I first test for the correct time-series specification of each variable, including its level of integration. I then fit the variables into vector auto-regression models, and run a series of Granger causality tests.

5.1 How Expectations and Vote Preference Change Over the Course of the Campaign

There are nine specific variables of interest,[23] but for the five electability variables, there are three different series we can look at. The first series would look at only the responses of Democratic respondents. The second series would use only the

[23] They are: Gore vs. Bradley viability, Bush viability, McCain viability, Democratic vote preference, Republican vote preference, Gore vs. Bush electability, Gore vs. McCain electability, Bush vs. Bradley electability, and Bradley vs. McCain electability.

assessments of Republican respondents. And the third series would look at the assessments of all respondents pooled together.[24] For viability and vote preferences, only responses from members of the respective parties are used. Splitting the data in this way is a more theoretically appropriate method than to use the pooled responses of all individuals. Since the vote preference series are made up of only Democrats or Republicans, then we would want to know their assessments of the candidates' chances of winning, not their assessments pooled together with another group's assessments.

It is clear from looking at the aggregated series that expectations and vote preferences are not stable over the course of the campaign. Figure 5.1 shows the vote preferences in the Democratic primary, and Figure 5.2 shows vote preferences in the Republican primary, with both graphs starting at the beginning of the Annenberg study, December 14th, and ending the day before Bill Bradley and John McCain both dropped out of the race, March 8th.[25]

Figure 5.1 About Here

Figure 5.2 About Here

There is a good amount of variation in the vote preferences of both the Democratic and Republican respondents. Bush and Gore both appear to have held leads in their respective races, though there is more of an upward trend in the percentage of Gore supporters than there is for Bush on the Republican side. What we can see from

[24] A fourth series of just independents would be made up of too few respondents to allow for a good series.
[25] Bill Bradley officially dropped out of the Democratic race on March 9th, after suffering defeats in each of the 16 states that held Democratic primaries on March 7th. McCain suffered similar defeats and suspended his campaign on March 9th, effectively ending his campaign for the nomination.

these figures is that preferences do change over the course of the campaign, and a longitudinal analysis of these preferences is important.

These graphs show that vote preferences are not stable over the course of a campaign, but we are also interested in whether or not expectations also change over time. Figures 5.3 through 5.13 show how the various expectations changed over the course of the 2000 primary campaign.

These graphs also show a fair amount of variability in the expectations series over time. There do appear to be general trends in favor of Bush and Gore, but each of the expectations do show some change throughout the campaign. For example, among Republican respondents, John McCain's chances of beating Al Gore fluctuate quite a bit in the early part of the study before taking a large dip around the time of the Iowa caucuses, which Gore won by a wide margin over Bradley, while McCain did not enter the Republican competition. After New Hampshire, however, McCain's chances go up considerably before taking a mild downturn towards the end of February.

Figures 5.3 to 5.13 About Here

Given that expectations and vote preference both appear to have some variability over the campaign, the next question is how these series change, which is addressed in the next section by looking at the time-series properties of the data. The question of why they change is then addressed in the remainder of this chapter and in chapter six.

5.2 Time-Series Specifications of Vote Preference and Expectations

From the graphs of vote preference and expectations, we can see that the variables appear to have trends over time. In Figure 5.9, for example, the theoretical competition between Bill Bradley and John McCain shows a clear downward trend in the percentage of Democrats believing that Bradley would win such a match-up. In the Democratic race, there is a clear upward trend in the percentage believing that Al Gore would win the Democratic nomination. And on the Republican side, McCain's viability goes up considerably after the New Hampshire primary on February 1st, before a quick downward turn at the end of February.

These patterns suggest that we should look at the level of integration for each of the series. If the series contain unit roots or are fractionally integrated, it could have a significant effect on the results of our models. By testing for the level of integration of the series, we can make sure that we are treating these series in the proper manner, so that the variation in the series is due to short-term change rather than long-term trends in the data.

It is possible that the way in which the vote preference and expectations series are created may lead to fractionally integrated series. The aggregation of individual-level behavior can bring about a fractionally integrated series (Granger and Joyeux, 1980; Box-Steffensmeier and Smith, 1998; Wlezien, 2000). The variables of interest for this analysis are created by aggregating the responses of individuals on the Annenberg National Election Survey in 2000 into daily time series. Therefore we might expect that fractional integration could be present in our variables simply as a result of how the series are calculated.

The substantive impact of taking into account fractional integration is that it allows us a more accurate picture of how our variables move over time. A stationary series would mean that outside shocks only have a fairly temporary effect on our variables. In the case of vote preferences and expectations, this could mean that factors such as campaign spending and media coverage and primary victories might have only short-term impacts on preferences and expectations. As a result, the early levels of preferences and expectations would be very important, and any candidates that are declared front-runners before the campaign would be very hard to beat. If instead our series are fully integrated, and thus contain unit roots, then vote preferences and expectations would be much more susceptible to outside influences that would continue to affect the series over time. However, the true relationship could be somewhere in between, with preferences and expectations being somewhat susceptible to outside shocks, but also somewhat stable. Therefore, we should expect that fractional integration is at least possible for these variables.

When estimating the (p,d,q) ARFIMA specifications of these variables, fractional integration is found in six of the seventeen variables,[26] while two are stationary (with d=0), and the remaining nine contain unit roots (d=1). Table 5.1 presents the levels of integration for each of the vote preference and expectation series used in this chapter and chapter six.

Table 5.1 about here

[26] Here, the pooled response series of electability are analyzed as well, though they are not used until chapter six.

What we see from these results is that two of the variables, Gore's electability against Bush and his electability against McCain, both among Democratic voters, are stationary, while the rest of the preference and expectation variables are either fractionally integrated or contain unit roots. It is not surprising that the Gore electability series is stationary, since Democratic voters were the most likely to see Gore as being the nominee, and had had a long time to consider his chances of winning the fall election. As a result, there was not much that could fundamentally alter these assessments for any period of time, meaning that any outside shocks to these electability series would be quickly forgotten, and the series would return to its mean quickly.

Of the remaining variables, six are found to be fractionally integrated: McCain's viability, Democratic preferences, Bush's electability against either Gore or Bradley among Republican voters, McCain's electability against Gore among Republicans, and Gore's electability against McCain among all voters. The rest of the variables all contained unit roots, in which outside shocks could have long-term, lasting effects on the series.

5.3 Analysis of Candidate Expectations and Vote Preferences

One of the more basic time series methods to look at multivariate relationships is the Granger causality test. The basic idea of a Granger causality test is to see if a variable is best explained with just its own history, or if the history of another variable also has a statistically significant impact on the values of the original series. If it is found that the first variable is also influenced by the history of the second variable, then the second variable is said to Granger cause the first. This fits well with the goals of this chapter, as

I seek to find out whether or not vote preferences respond to changes in expectations, or if the relationship is reversed. By running Granger causality tests on the vote choice and expectations variables, I can make judgments on how the causal order runs between the two sets of variables[27].

Since each of the electability variables can be split into three different series, it is important to use the theoretically appropriate forms. As this analysis is dealing with the vote preferences of party members, the electability series of the partisans are used here, rather than using the pooled response electability series. The pooled responses are used in the next chapter in tests of rational electoral expectations, but here they are not the series we should be looking at when comparing them to vote preferences that are already limited by party.

The New Hampshire Effect

An additional modification is made to the basic vector auto-regression model used here. The modification is to include an intervention effect that represents the New Hampshire primary. In time series methods, interventions are used to represent changes in the mean of a time series (Enders 1995). These often take the form of changes in policy or specific events (see Enders and Sandler 1993). Since the New Hampshire primary is potentially a source of great change in the variables, we can model it in the VAR models by adding in a non-lagged variable to each equation. For dates leading up to and including the day of the New Hampshire primary, the intervention variable takes

[27] See Chapter 3 for a discussion of Vector-Autoregression models and Granger causality.

on the value of zero, with the variable taking on the value of one for the days after the primary. By inserting this variable, the two-lag form of the VAR equation now becomes:

$$y(t) = a_0 + a_1 p(t) + b_1 y(t-1) + b_2 y(t-2) + e(t) \quad (5.1)$$

where y(t) is a vector of expectations, media coverage, and campaign expenditures, p(t) is the intervention indicating whether or not the New Hampshire primary has occurred, e(t) is an iid error term, and a_i and b_i are parameters.

By inserting the intervention into the model, we take into account the important changes that occur to the time series as a result of the New Hampshire primary. The New Hampshire primary is often when the nomination campaigns become more salient on a national scale, and represents the first time that votes are cast in a primary election. As a result, great attention is paid to the results of the primary, as it kicks off an intensive period in the campaign, and fundamentally changes how voters view the nomination campaigns. In 2000, the New Hampshire primary showed that McCain was a potentially strong challenger to Bush, while Bradley was quickly dismissed as a serious Democratic contender after his loss there. If we did not account for the impact of the New Hampshire primary, then we would be ignoring a vitally important step in the campaign, and could be fundamentally mis-specifying our models.

I chose to model the New Hampshire primary by using an intervention effect for two main reasons. The first reason is a basic methodological approach. In time-series analysis, interventions are used when there is a sudden change in the mean of the time series (Enders 1995). There is a clear change in each of the variables from before the New Hampshire primary to afterwards. This change is due to the changing dynamic of the race that occurred as a result of the New Hampshire primary taking place. Before

New Hampshire, the media had largely discounted John McCain as being a serious challenger, and focused on the Democratic race between Al Gore and Bill Bradley. But when McCain upset Bush in New Hampshire, he suddenly became a much bigger story, and this occurred at the same time that Bradley appeared to lose all hope of upsetting Gore. Additionally, the expectations variables all changed at the point of the New Hampshire primary as well, with McCain's expectations taking a large jump, and Bradley's expectations going downwards.

The second reason for modeling New Hampshire as an intervention is a more substantive reason. New Hampshire is a one-shot primary that occurs at a specific point in time. It has an effect on the race that can last through the rest of the nomination campaign. Its effect makes people more aware of the nomination, and sends a clear signal about the state of the nomination campaigns in each party. It is more important than Iowa or other large campaign events because it is the event that gets the most national attention. The Iowa caucus is important, but it does not achieve the same level of voter attention that New Hampshire does.

I also tested the same models using an intervention effect representing the Iowa caucus. The results of those models are not used here for two reasons. The first reason is that Iowa is not as clearly important at the theoretical level, especially in the 2000 election. On the Republican side, John McCain did not even participate in the Iowa caucuses, leaving New Hampshire as the first direct contest between himself and George W. Bush. Therefore we would expect little to happen on the Republican side when looking at Iowa as an intervention effect. We would also expect the Iowa intervention to have little impact on the match-up between McCain and the Democratic candidates, since

little had changed in terms of his chances against them as a result of his non-participation in Iowa.

The second reason that the Iowa intervention is not used here is because preliminary statistical tests using the Iowa intervention in place of the New Hampshire intervention did not produce different results from the models using the New Hampshire intervention. This is likely due to the fact that the Iowa caucus and the New Hampshire primary occurred only a week apart, with the two interventions taking on the same value for all but seven of the 86 time points, making it unlikely that such a small difference would have much of an effect on changing the results. Tests using both interventions in the same model turned out poorly, with very little pattern to the results. Since it is clear that one of the interventions was needed to represent the start of the campaign, and the New Hampshire primary had more theoretical backing, the intervention for that event is used.

5.4 Results

The results of the Granger-causality tests are quite informative, and support the idea that expectations drive vote preferences. There is relatively little evidence for projection effects, as vote preferences only Granger-cause expectations in a few cases. Overall, the models strongly justify the use of expectations as a way to explain changes in vote preferences over the course of a campaign.

While the VAR models presented here can provide coefficients for each variable and its associated lags in the model, these individual coefficients are of relatively little interest. What we are interested in is the overall effect of each variable. In Table 5.2 and

the subsequent tables in this chapter, the Granger-causality results are presented, where there is a single joint significance calculated for each variable and its lags. This allows us to see if all of the lags for a specific variable are jointly significant in each equation for each endogenous variable in the model. There is no Granger-causality result for the New Hampshire intervention, since it does not vary over time and has no lagged values in the VAR model.

The Democrats

The only worrisome evidence for projection effects comes through in the Democratic campaign. As Table 5.2 shows, the bivariate model of Democratic vote preference and viability finds that vote preferences Granger-cause assessments of Democratic viability. The reverse is also true, in that viability Granger-causes vote preferences. However, neither series Granger-causes itself. But this is a relatively simple model, and does not take into account other potential influences on the two variables, such as electability assessments.

Table 5.2 About Here

When we look solely at assessments of the electability of the two Democratic candidates, there is again little apparent support for expectations influencing vote preferences. Only one series, Bradley's electability against McCain, is found to Granger-cause vote preferences. Instead, evidence of a projection effect is found in the equation for both of Gore's electability series, with vote preferences Granger-causing both series.

This is a worrisome finding, but again, using just expectations is not the full model that we want to look at.

Table 5.3 About Here

When we combine the electability series and viability series into one model, we find much better support for expectations as an explanation for vote preferences. Three of the expectations series—Gore's electability vs. Bush, Bradley's electability vs. McCain, and Democratic viability—are all found to Granger-cause vote preferences. We can therefore be confident that changes in Democratic vote preferences can be explained by changes in expectations about the Democratic candidates' chances of winning election.

There is no evidence of a projection effect on any of the electability series in the full Democratic model. However, vote preferences again Granger-cause viability. This is worrisome, as it is further evidence that there is a projection effect in viability. If vote preferences are projected onto assessments of a candidate's chances of winning nomination, then this could be a considerable deterrent to non-favored candidates, such as Bill Bradley. If party voters think that only their preferred candidate has a chance at winning the nomination, then there is no incentive for them to listen to the other candidates, and the candidate with the most initial support will win. This can help to explain the relative difficulty that non-favored candidates have had in presidential primaries over the last thirty years. Challengers have had very little success in overcoming favored candidates. If challengers are seen as being non-viable, simply by their lack of initial support, then voters would have little reason to give them support later on in the nomination campaign, thus starting a vicious cycle from which challengers

cannot escape. If this pattern is also found on the Republican side, then this could of considerable concern to students of voting behavior in nomination campaigns.

Table 5.4 About Here

The Republicans

On the Republican side, there is no evidence of a projection effect in the viability of either George W. Bush or John McCain. In the bivariate model of just Bush's viability and Republican vote preferences, the series only Granger-cause themselves, and have no apparent effect on each other. McCain's viability does have a statistically significant impact, with his viability Granger-causing vote preferences. A combined model with both candidates' viabilities shows the same results, with vote preferences not Granger-causing either candidate's viability, but McCain's viability Granger-causes vote preferences. Additionally, McCain's viability is also found to Granger-cause Bush's viability, although there is no reciprocal effect of Bush's viability on McCain's viability.

Table 5.5 About Here

Table 5.6 About Here

Table 5.7 About Here

Republican electability assessments provide a very interesting picture of the campaign. In a model with vote preferences and the four electability match-ups, two series Granger-cause vote preferences: Bush's electability against Gore, and McCain's electability against Gore. The Republicans were clearly interested in beating Gore, the presumptive Democratic nominee, and this directly affected who they supported. There

is a minor projection effect of vote preferences on Bush's electability against Gore, but none of the other electability series are Granger-caused by vote preferences.

Table 5.8 About Here

In the full Republican model combining vote preferences, viabilities, and electabilities, we get the same patterns as in the two previous models, with both of the electabilities against Gore Granger-causing vote preferences, along with McCain's viability. There is again a projection effect on Bush's electability against Gore, though it barely meets the threshold of statistical significance, and does not appear to be much of a concern.

This model shows that expectations directly affected how Republicans viewed the 2000 nomination campaign. The important thing to Republicans was beating the Democratic candidate, who they expected to be Al Gore. This directly influenced who they supported for the Republican nomination. This is an important finding, in that it shows that when the other party has a clear nominee, he becomes the focal point for the other party's nomination campaign. Bush and McCain were able to run against Gore as well as against each other by focusing on their own ability to beat Gore. By demonstrating their electability, they could influence partisans to support their cause.

Table 5.9 About Here

5.5 Conclusion

This analysis has shown that changes in vote preferences over the course of a campaign can be attributed to changes in expectations of the candidates' performance.

We see this especially through the Republican model, where the candidates' chances of beating Al Gore, the presumptive Democratic nominee, directly affected their preferences in the Republican nomination campaign. On the Democratic side, vote preferences are not as cleanly explained, although expectations do clearly have an impact on vote preferences.

Table 5.10 presents a summary of the results of the full models of expectations and vote preferences for the two parties. We see that for each party, there are three series that Granger-cause vote preferences. In both cases, the electability series matching up Bush and Gore, who most people expected to be their parties' nominees, Granger-caused vote preferences. This fits well with the idea that expectations influence vote preferences. If two candidates are expected to be the eventual nominees, then voters in each party should look at the ability of that candidate to beat the other party's expected nominee, and this is the case in the 2000 nominations.

Table 5.10 About Here

This analysis also allows for a new way to test for projection effects, which have long been a concern of those who use expectations to explain nomination preferences. By looking at the problem longitudinally, rather than cross-sectionally, we are better able to assess the problem of projection. The results are mixed, with apparent evidence for projection being found on the Democratic side, but there is only very weak evidence for projection on the Republican side. The projection effects in the Democratic race are confined to the viability series, with vote preferences influencing assessments of the candidates' chances of being nominated. This could be a considerable problem if there is

an actual projection effect. However, there is reason to believe that the apparent projection effect found here is not in fact a big problem for researchers seeking to use viability as an explanatory variable for nomination preferences.

The reason that the projection effect is found on the Democratic side but not the Republican side is that the Democratic race was competitive for only a short period, while the Republican race stayed competitive for a longer period of time. Although Bradley was successful in raising money, he was never able to generate the appearance of someone who could actually beat Gore. Gore had long been assumed to be the successor to Bill Clinton, and voters likely had little reason to believe that he would not capture the Democratic nomination. The Democratic campaign was never very competitive, and once the votes started being cast in Iowa and New Hampshire, Bradley quickly faded from the scene, as he was unable to win any Democratic contests. Therefore, the projection effect in the models may simply be reflective of the non-competitiveness of the race, and the only people that believed Bradley could win the nomination would be his supporters. Any concerns about projection effects influencing our models of voting behavior can be minimized, as there are clearly other reasons beyond viability as to why voters supported Gore.

We can safely conclude from the results of this chapter that expectations do influence vote preferences. Expectations are clearly an important factor in voting decisions, and can be used to explain why vote preferences fluctuate over the course of the campaign. Since we find that, for the most part, expectations are not influenced by vote preferences, we must look to other explanations for why expectations change over time. Thus the theory of rational expectations comes into play, with voters being

influenced in how they view expectations by the amount of information they have about each candidate. This theory is the focus of the next chapter.

Series	*d* *(s.e.)*	*ARMA* *(p,q)*	*Decision: Stationary, Fractionally Integrated, or Unit Root?**
Gore Viability	1 (0.093)	(0,d,1)	Unit Root
Bush Viability	1 (0.195)	(3,d,3)	UR
McCain Viability	0.398 (0.103)	(0,d,0)	Fractionally Integrated
Gore preference	0.258 (0.094)	(0,d,0)	FI
Bush preference	1 (0.227)	(2,d,3)	UR
Gore electability vs. Bush (Democratic voters)	0 (0.103)	(0,d,0)	Stationary
Bradley electability vs. Bush (Democratic voters)	1 (0.194)	(0,d,2)	UR
Gore electability vs. McCain (Democratic voters)	0 (0.153)	(2,d,2)	ST
Bradley electability vs. McCain (Democratic voters)	1 (0.220)	(0,d,1)	UR
Bush electability vs. Gore (Republican voters)	0.406 (0.136)	(1,d,0)	FI
Bush electability vs. Bradley (Republican voters)	0.401 (0.119)	(1,d,0)	FI
McCain electability vs. Gore (Republican voters)	0.323 (0.095)	(0,d,0)	FI
McCain electability vs. Bradley (Republican voters)	1 (0.219)	(0,d,1)	UR
Gore vs. Bush Electability (Pooled Voters)	1 (0.448)	(4,d,5)	UR
Gore vs. McCain (Pooled Voters)	0.567 (0.101)	(2,d,2)	FI
Bush vs. Bradley (Pooled Voters)	1 (0.164)	(0,d,1)	UR
Bradley vs. McCain (Pooled Voters)	1 (0.183)	(0,d,1)	UR

*A series is treated as stationary if the d parameter is within 2 standard errors of 0, while it is treated as a unit root if it is within two standard errors of 1.

Table 5.1 Time-Series Properties for Vote Preference and Expectations Series

Equation's Dependent Variable	Block of Lagged Coefficients	Joint Significance Level (p-value)
Democratic Preference	Democratic Preference	0.507
	Democratic Viability	0.096*
Democratic Viability—Gore vs. Bradley	Democratic Preference	0.042**
	Democratic Viability	0.820

** Variable Granger-causes dependent variable at 95% level of significance

* Variable Granger-causes dependent variable at 90% level of significance

Table 5.2 Granger Causality Tests of VAR Intervention Model of Democratic Vote Preference and Viability[28]

[28] Likelihood ratio tests select 4 lags for this model.

Equation's Dependent Variable	Block of Lagged Coefficients	Joint Significance Level (p-value)
Democratic Preference	Democratic Preference	0.444
	Gore vs. Bush Electability	0.181
	Gore vs. McCain Electability	0.439
	Bradley vs. Bush Electability	0.436
	Bradley vs. McCain Electability	0.045**
Gore vs. Bush Electability	Democratic Preference	0.007***
	Gore vs. Bush Electability	0.287
	Gore vs. McCain Electability	0.132
	Bradley vs. Bush Electability	0.529
	Bradley vs. McCain Electability	0.681
Gore vs. McCain Electability	Democratic Preference	0.075*
	Gore vs. Bush Electability	0.843
	Gore vs. McCain Electability	0.251
	Bradley vs. Bush Electability	0.483
	Bradley vs. McCain Electability	0.085*
Bradley vs. Bush Electability	Democratic Preference	0.533
	Gore vs. Bush Electability	0.099*
	Gore vs. McCain Electability	0.016**
	Bradley vs. Bush Electability	0.001***
	Bradley vs. McCain Electability	0.474
Bradley vs. McCain Electability	Democratic Preference	0.771
	Gore vs. Bush Electability	0.074*
	Gore vs. McCain Electability	0.117
	Bradley vs. Bush Electability	0.424
	Bradley vs. McCain Electability	0.000***

*** Variable Granger-causes dependent variable at 99% level of significance
** Variable Granger-causes dependent variable at 95% level of significance
* Variable Granger-causes dependent variable at 90% level of significance

Table 5.3 Granger Causality Tests of VAR Intervention Model of Democratic Vote Preference and Electabilities[29]

[29] LR tests select 3 lags for this model.

Equation's Dependent Variable	Block of Lagged Coefficients	Joint Significance Level (p-value)
Democratic Preference	Democratic Preference	0.574
	Gore vs. Bush Electability	0.062*
	Gore vs. McCain Electability	0.826
	Bradley vs. Bush Electability	0.875
	Bradley vs. McCain Electability	0.020**
	Democratic Viability	0.042**
Gore vs. Bush Electability	Democratic Preference	0.102
	Gore vs. Bush Electability	0.060*
	Gore vs. McCain Electability	0.117
	Bradley vs. Bush Electability	0.882
	Bradley vs. McCain Electability	0.541
	Democratic Viability	0.044**
Gore vs. McCain Electability	Democratic Preference	0.487
	Gore vs. Bush Electability	0.728
	Gore vs. McCain Electability	0.255
	Bradley vs. Bush Electability	0.160
	Bradley vs. McCain Electability	0.048**
	Democratic Viability	0.501
Bradley vs. Bush Electability	Democratic Preference	0.536
	Gore vs. Bush Electability	0.163
	Gore vs. McCain Electability	0.051*
	Bradley vs. Bush Electability	0.016**
	Bradley vs. McCain Electability	0.700
	Democratic Viability	0.423
Bradley vs. McCain Electability	Democratic Preference	0.937
	Gore vs. Bush Electability	0.012**
	Gore vs. McCain Electability	0.162
	Bradley vs. Bush Electability	0.321
	Bradley vs. McCain Electability	0.000***
	Democratic Viability	0.014**
Democratic Viability	Democratic Preference	0.020**
	Gore vs. Bush Electability	0.115
	Gore vs. McCain Electability	0.242
	Bradley vs. Bush Electability	0.441
	Bradley vs. McCain Electability	0.179
	Democratic Viability	0.675

*** Variable Granger-causes dependent variable at 99% level of significance

** Variable Granger-causes dependent variable at 95% level of significance

Table 5.4 Granger Causality Tests of VAR Intervention Model of Democratic Vote Preference, Viability, and Electabilities[30]

[30] LR Tests select 4 lags for this model.

Equation's Dependent Variable	Block of Lagged Coefficients	Joint Significance Level (p-value)
Republican Vote Preference	Republican Vote Preference	0.000***
	Bush Viability	0.746
Bush Viability	Republican Vote Preference	0.358
	Bush Viability	0.000***

*** Variable Granger-causes dependent variable at 99% level of significance
** Variable Granger-causes dependent variable at 95% level of significance
* Variable Granger-causes dependent variable at 90% level of significance

Table 5.5 Granger-causality Tests for VAR Intervention Model of Republican Vote Preference and Bush Viability[31]

Equation's Dependent Variable	Block of Lagged Coefficients	Joint Significance Level (p-value)
Republican Vote Preference	Republican Vote Preference	0.000***
	McCain Viability	0.009***
McCain Viability	Republican Vote Preference	0.257
	McCain Viability	0.022**

*** Variable Granger-causes dependent variable at 99% level of significance
** Variable Granger-causes dependent variable at 95% level of significance
* Variable Granger-causes dependent variable at 90% level of significance

Table 5.6 Granger-causality Tests for VAR Intervention Model of Republican Vote Preference and McCain Viability[32]

[31] LR tests select 3 lags for this model.
[32] LR tests select 4 lags for this model.

Equation's Dependent Variable	Block of Lagged Coefficients	Joint Significance Level (p-value)
Republican Vote Preference	Republican Vote Preference	0.000***
	Bush Viability	0.713
	McCain Viability	0.024**
Bush Viability	Republican Vote Preference	0.128
	Bush Viability	0.000***
	McCain Viability	0.020**
McCain Viability	Republican Vote Preference	0.240
	Bush Viability	0.345
	McCain Viability	0.036**

*** Variable Granger-causes dependent variable at 99% level of significance
** Variable Granger-causes dependent variable at 95% level of significance
* Variable Granger-causes dependent variable at 90% level of significance

Table 5.7 Granger-causality Tests for VAR Intervention Model of Republican Vote Preference and Bush and McCain Viabilities[33]

[33] LR tests select 4 lags for this model.

Equation's Dependent Variable	Block of Lagged Coefficients	Joint Significance Level (p-value)
Republican Vote Preference	Republican Vote Preference	0.000***
	Bush vs. Gore Electability	0.008***
	Bush vs. Bradley Electability	0.502
	McCain vs. Gore Electability	0.001***
	McCain vs. Bradley Electability	0.302
Bush vs. Gore Electability	Republican Vote Preference	0.096*
	Bush vs. Gore Electability	0.078*
	Bush vs. Bradley Electability	0.874
	McCain vs. Gore Electability	0.489
	McCain vs. Bradley Electability	0.557
Bush vs. Bradley Electability	Republican Vote Preference	0.803
	Bush vs. Gore Electability	0.689
	Bush vs. Bradley Electability	0.005***
	McCain vs. Gore Electability	0.611
	McCain vs. Bradley Electability	0.817
McCain vs. Gore Electability	Republican Vote Preference	0.564
	Bush vs. Gore Electability	0.961
	Bush vs. Bradley Electability	0.813
	McCain vs. Gore Electability	0.580
	McCain vs. Bradley Electability	0.222
McCain vs. Bradley Electability	Republican Vote Preference	0.850
	Bush vs. Gore Electability	0.924
	Bush vs. Bradley Electability	0.000***
	McCain vs. Gore Electability	0.004***
	McCain vs. Bradley Electability	0.000***

*** Variable Granger-causes dependent variable at 99% level of significance
** Variable Granger-causes dependent variable at 95% level of significance
* Variable Granger-causes dependent variable at 90% level of significance

Table 5.8 Granger-causality Tests for VAR Intervention Model of Republican Vote Preference and Republican Electabilities

Equation's Dependent Variable	Block of Lagged Coefficients	Joint Significance Level (p-value)
Republican Vote Preference	Republican Vote Preference	0.000***
	Bush Viability	0.251
	McCain Viability	0.071*
	Bush vs. Gore Electability	0.016**
	Bush vs. Bradley Electability	0.400
	McCain vs. Gore Electability	0.001***
	McCain vs. Bradley Electability	0.701
Bush Viability	Republican Vote Preference	0.220
	Bush Viability	0.000***
	McCain Viability	0.581
	Bush vs. Gore Electability	0.027**
	Bush vs. Bradley Electability	0.076*
	McCain vs. Gore Electability	0.010***
	McCain vs. Bradley Electability	0.356
McCain Viability	Republican Vote Preference	0.824
	Bush Viability	0.419
	McCain Viability	0.036**
	Bush vs. Gore Electability	0.704
	Bush vs. Bradley Electability	0.046*
	McCain vs. Gore Electability	0.826
	McCain vs. Bradley Electability	0.889
Bush vs. Gore Electability	Republican Vote Preference	0.100*
	Bush Viability	0.114
	McCain Viability	0.979
	Bush vs. Gore Electability	0.669
	Bush vs. Bradley Electability	0.618
	McCain vs. Gore Electability	0.656
	McCain vs. Bradley Electability	0.213
Bush vs. Bradley Electability	Republican Vote Preference	0.984
	Bush Viability	0.555
	McCain Viability	0.139
	Bush vs. Gore Electability	0.865
	Bush vs. Bradley Electability	0.006***
	McCain vs. Gore Electability	0.894
	McCain vs. Bradley Electability	0.311

Table 5.9 Granger-causality Tests for VAR Intervention Model of Republican Vote Preference, Republican Electabilities, and Republican Viabilities[34]

(CONTINUED ON NEXT PAGE)

[34] LR tests select 3 lags for this model.

Table 5.9 Continued

McCain vs. Gore Electability	Republican Vote Preference	0.419
	Bush Viability	0.727
	McCain Viability	0.885
	Bush vs. Gore Electability	0.859
	Bush vs. Bradley Electability	0.871
	McCain vs. Gore Electability	0.589
	McCain vs. Bradley Electability	0.245
McCain vs. Bradley Electability	Republican Vote Preference	0.847
	Bush Viability	0.219
	McCain Viability	0.007***
	Bush vs. Gore Electability	0.996
	Bush vs. Bradley Electability	0.013**
	McCain vs. Gore Electability	0.010***
	McCain vs. Bradley Electability	0.000***

*** Variable Granger-causes dependent variable at 99% level of significance
** Variable Granger-causes dependent variable at 95% level of significance
* Variable Granger-causes dependent variable at 90% level of significance

Democratic Vote preference is Granger Caused by…	
	Democratic Viability Gore Electability vs. Bush Bradley Electability vs. McCain
Republican Vote preference is Granger Caused by…	
	McCain Viability Bush Electability vs. Gore McCain Electability vs. Gore

Table 5.10 Summary of Results of Granger-Causality Tests for Democratic and Republican Vote Preferences

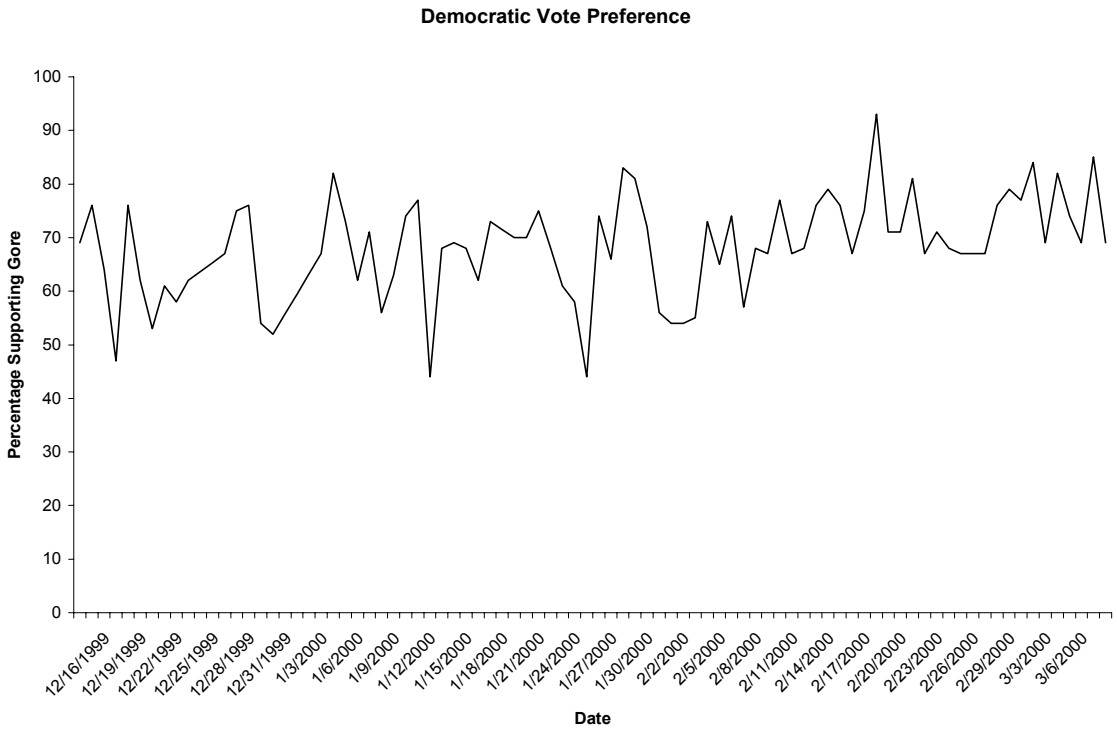

Figure 5.1 Democratic Vote Preferences—12/14/1999-3/8/2000

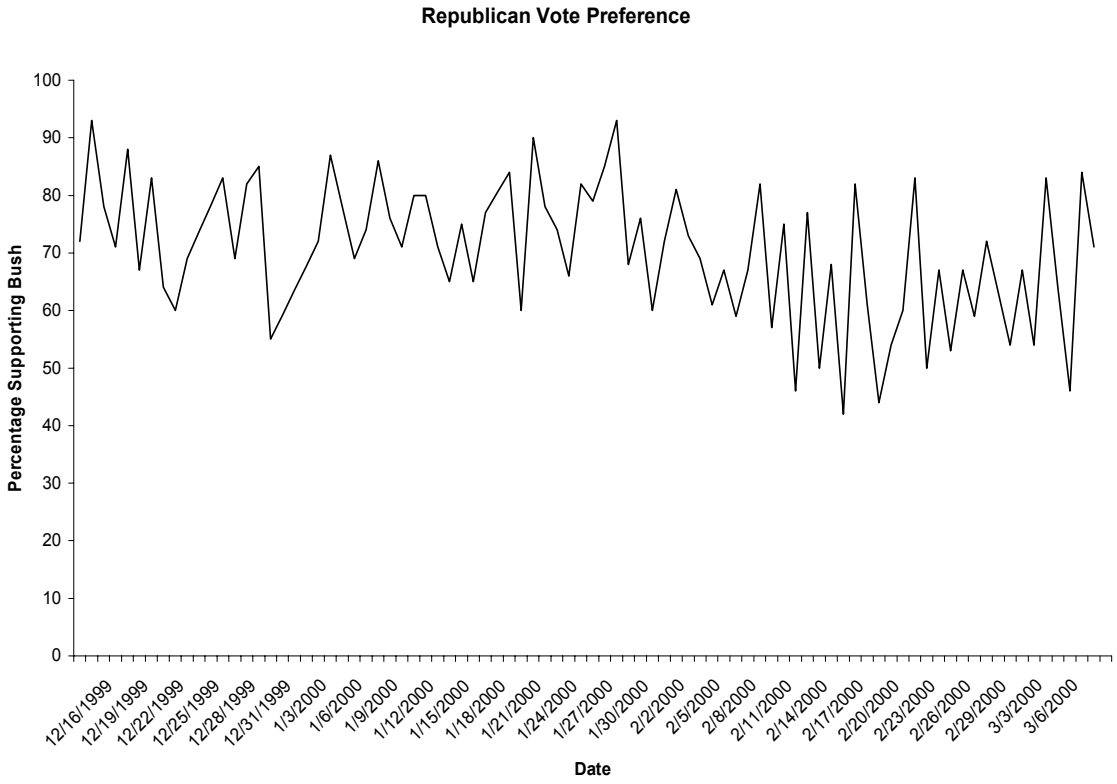

Figure 5.2 Republican Vote Preferences—12/14/1999-3/8/2000

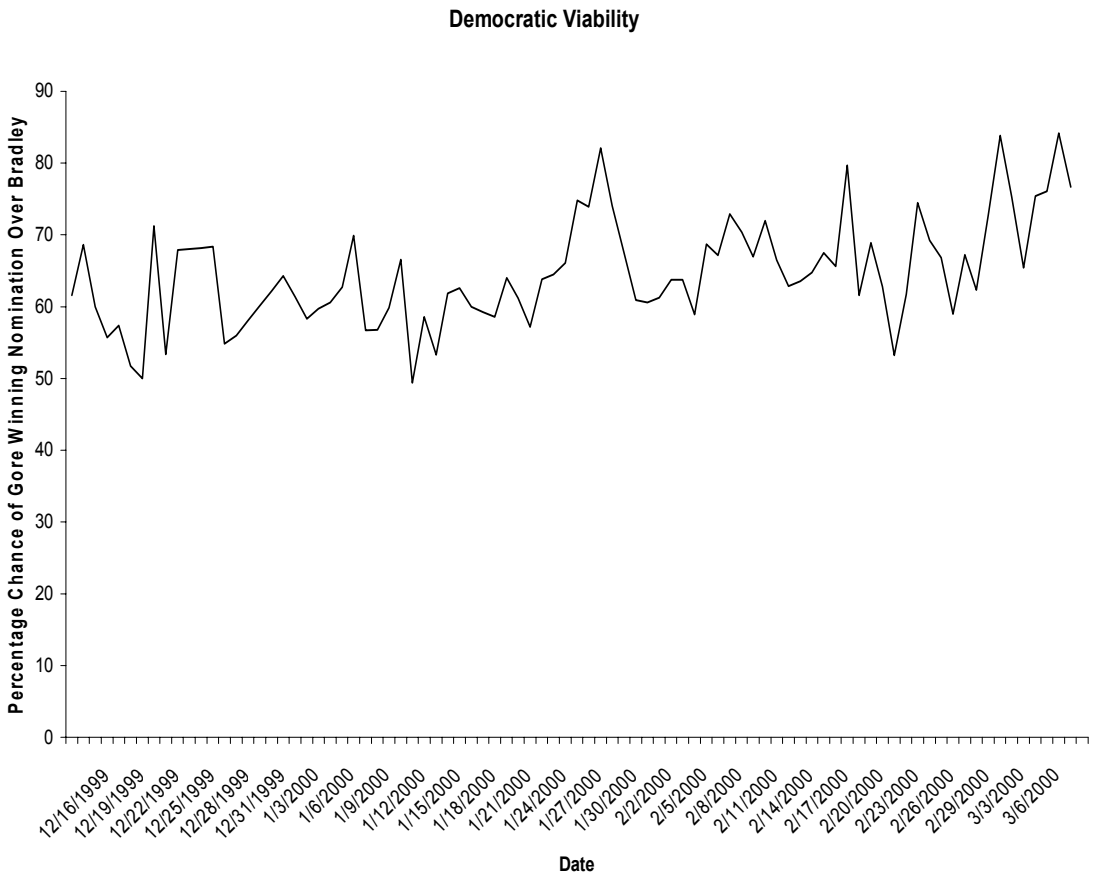

Figure 5.3 Democratic Viability

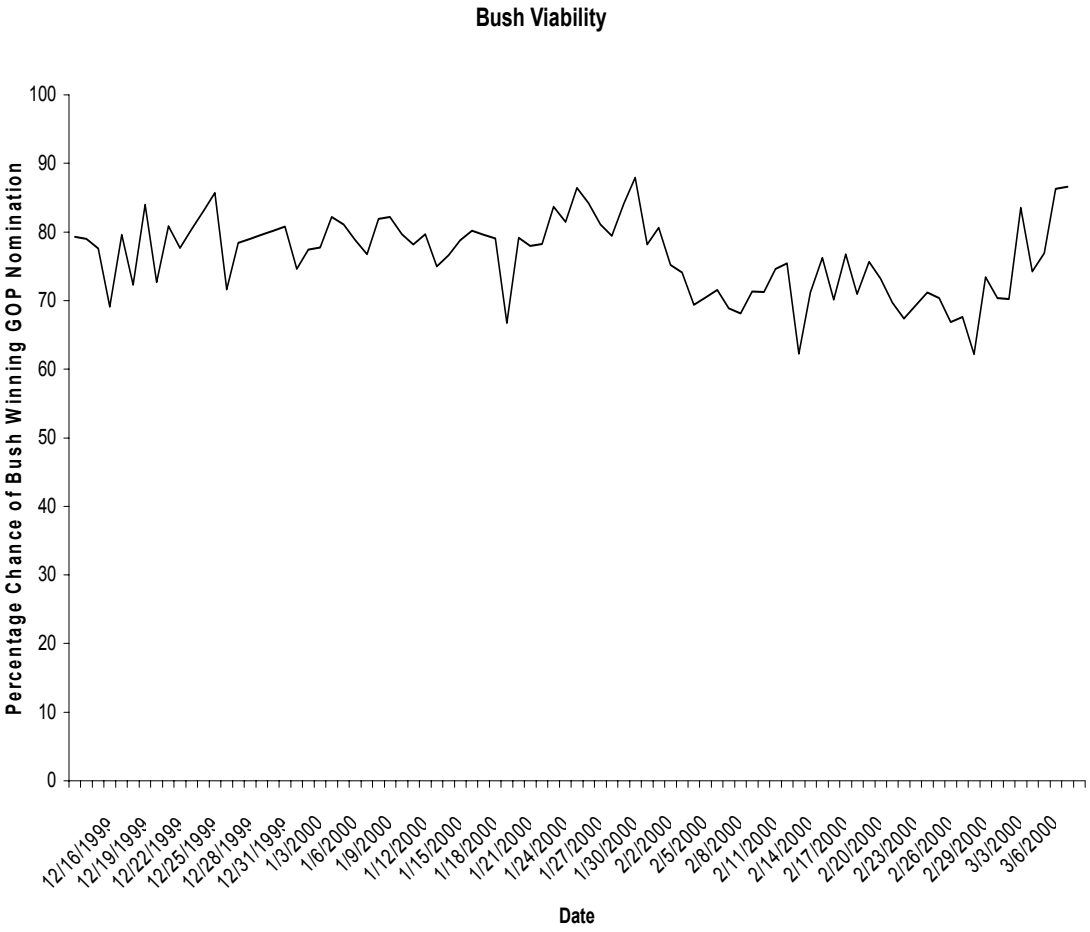

Figure 5.4 Bush Viability

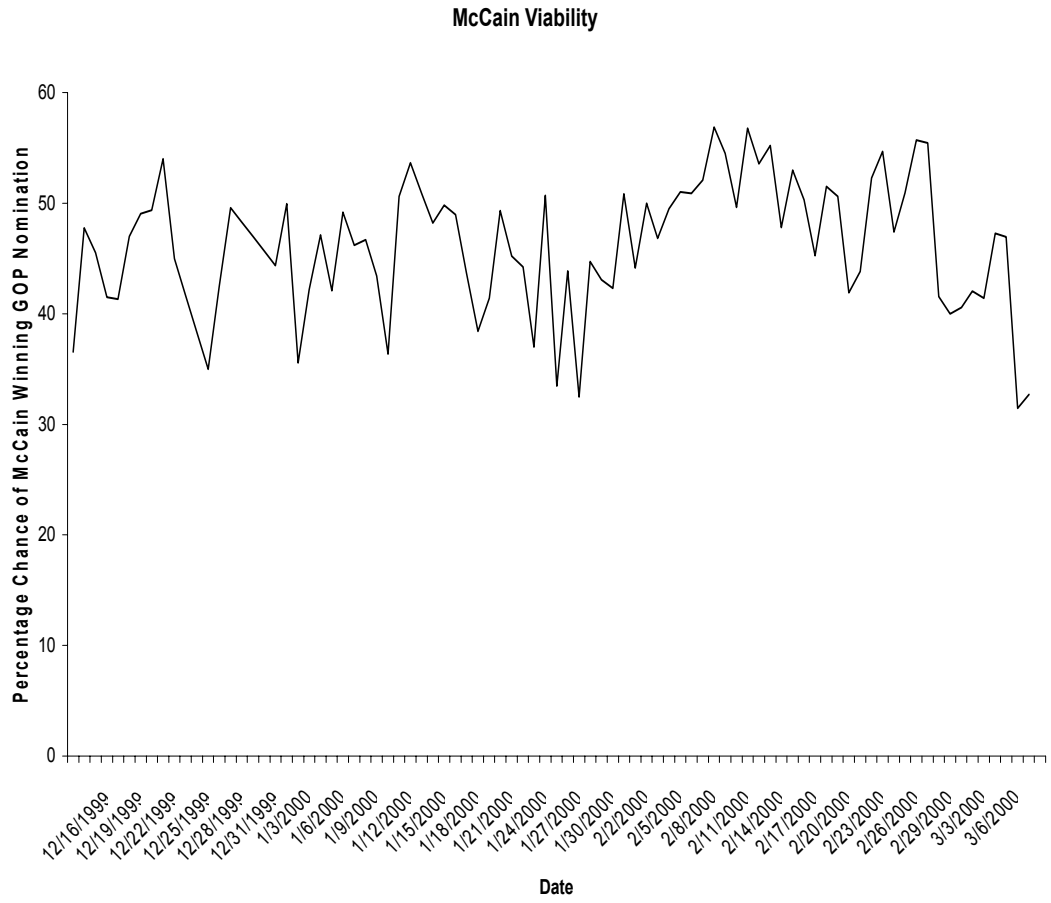

Figure 5.5 McCain Viability

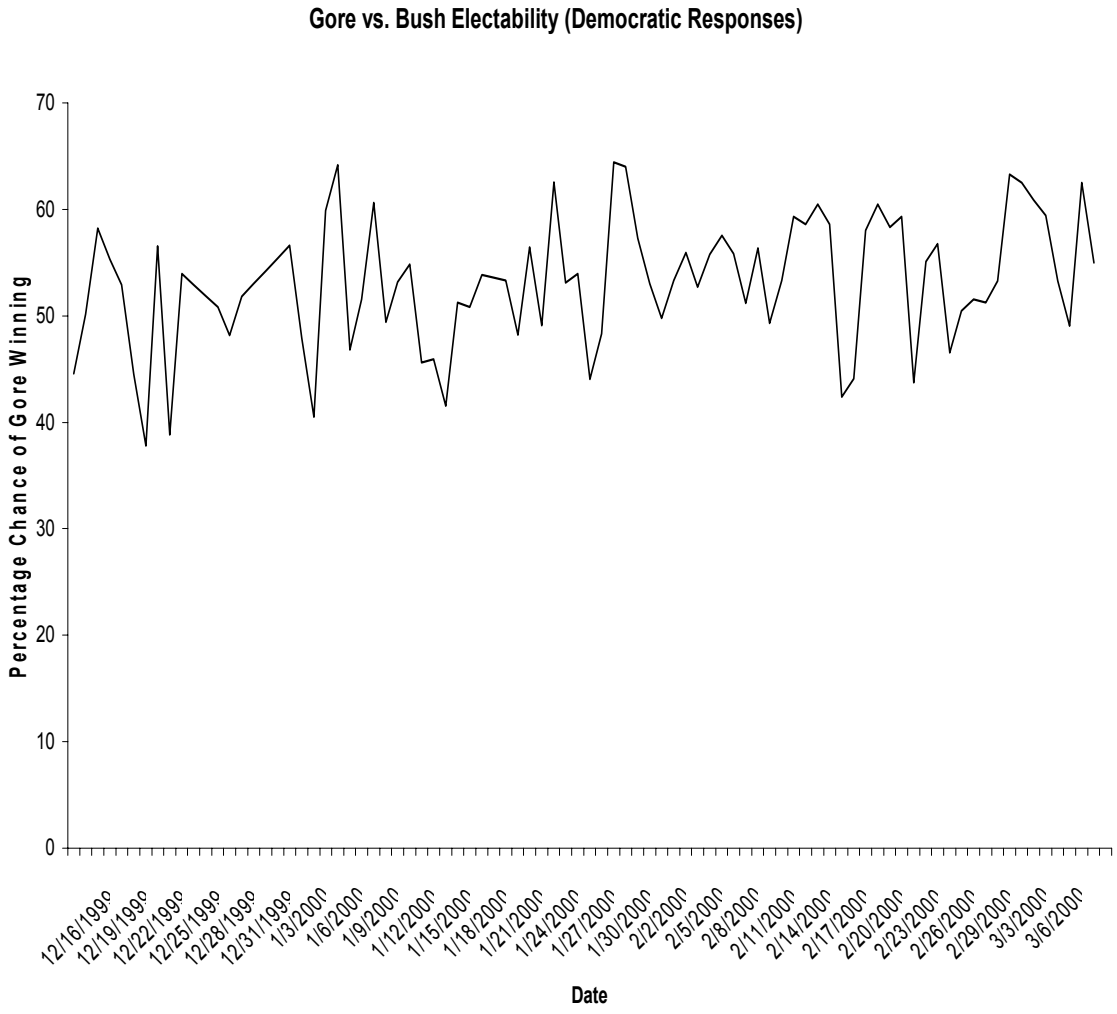

Figure 5.6 Gore's Electability vs. Bush (Democratic Responses)

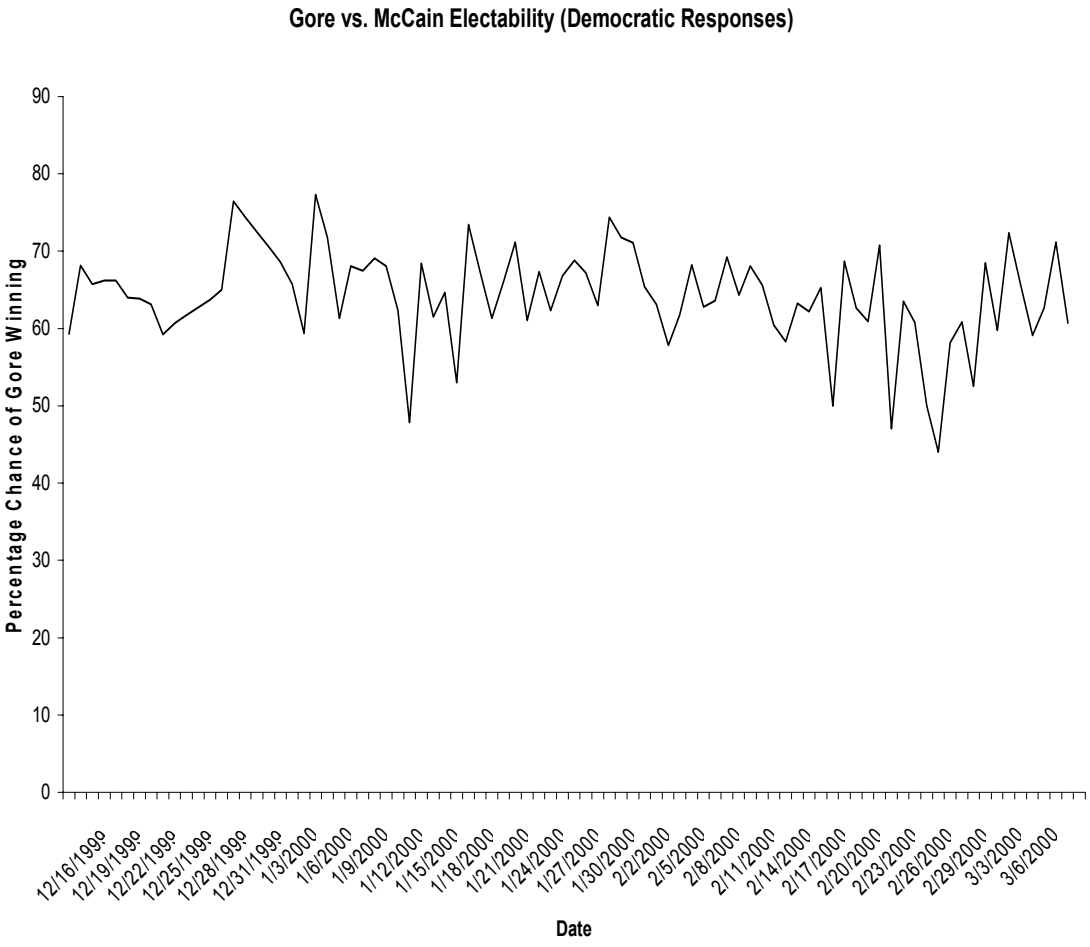

Figure 5.7 Gore's Electability vs. McCain (Democratic Respondents)

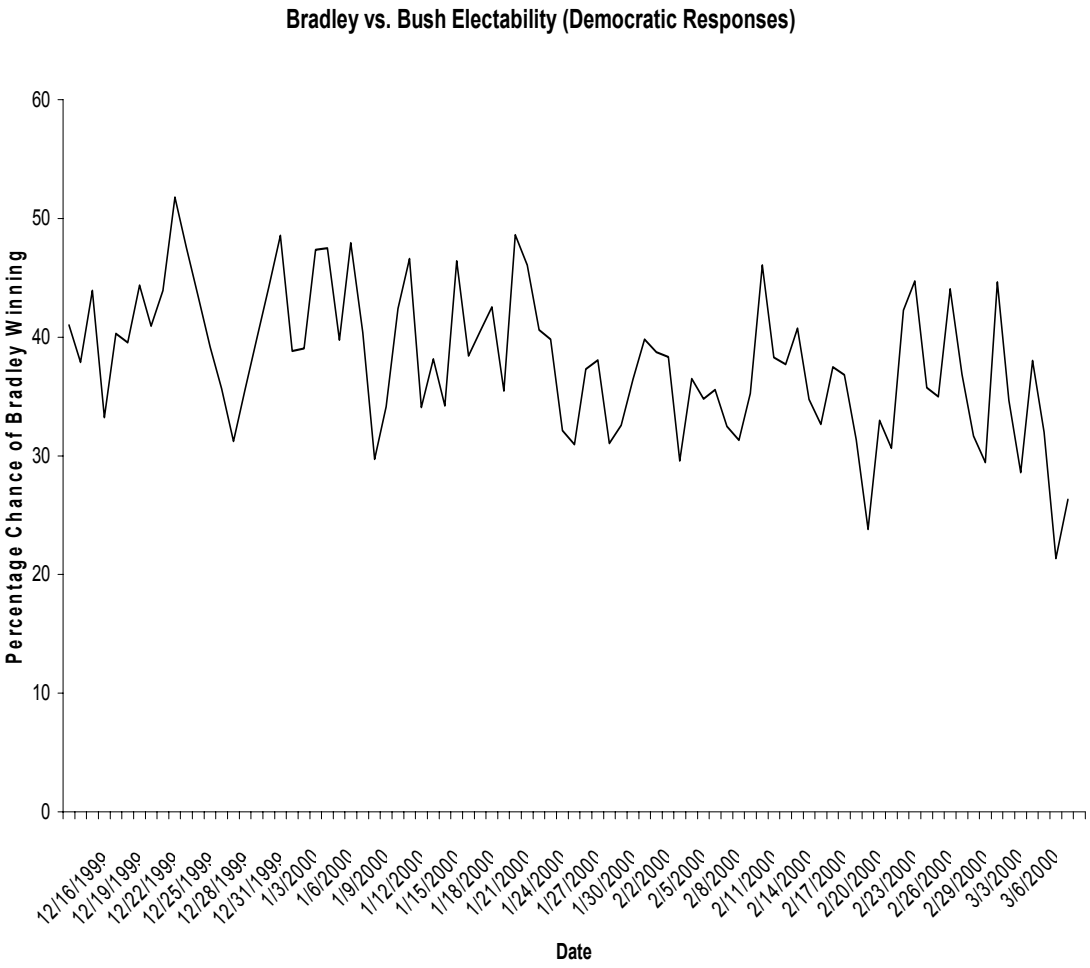

Figure 5.8 Bradley's Electability vs. Bush (Democratic Responses)

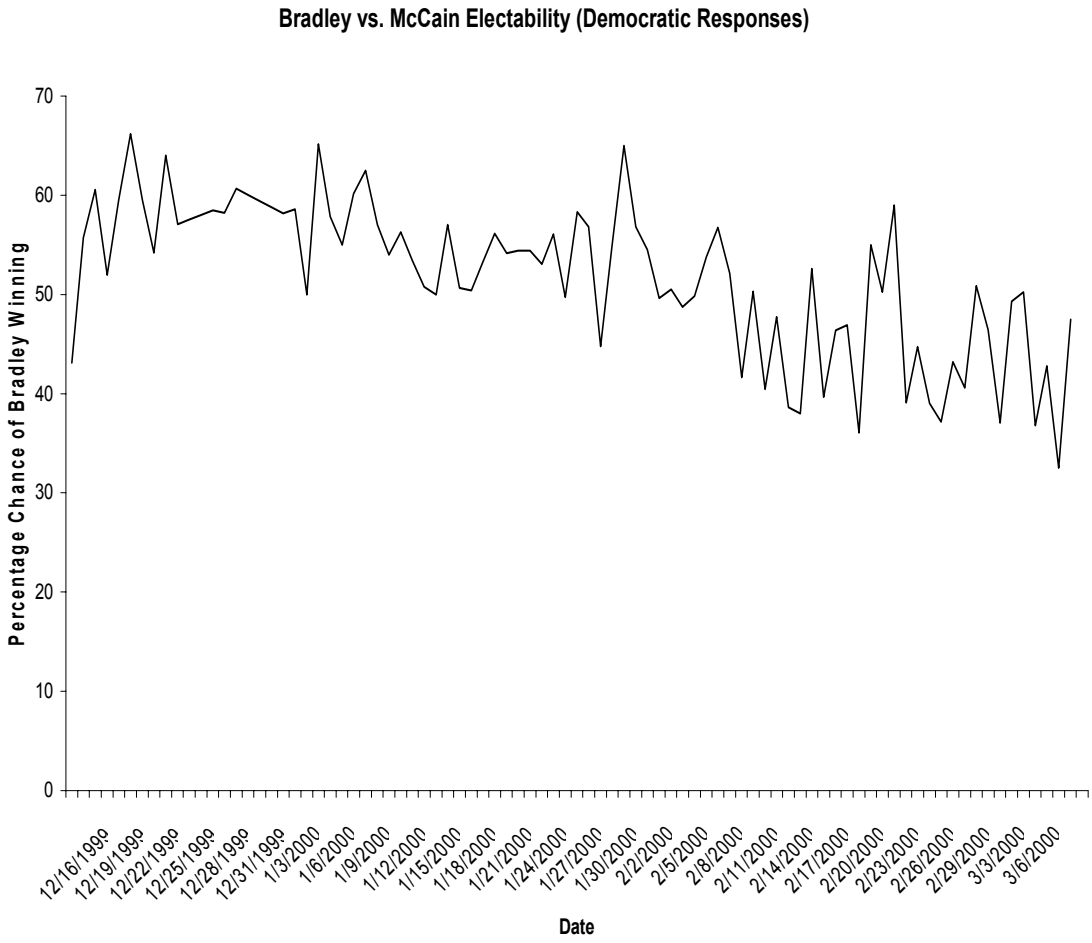

Figure 5.9 Bradley's Electability vs. McCain (Democratic Responses)

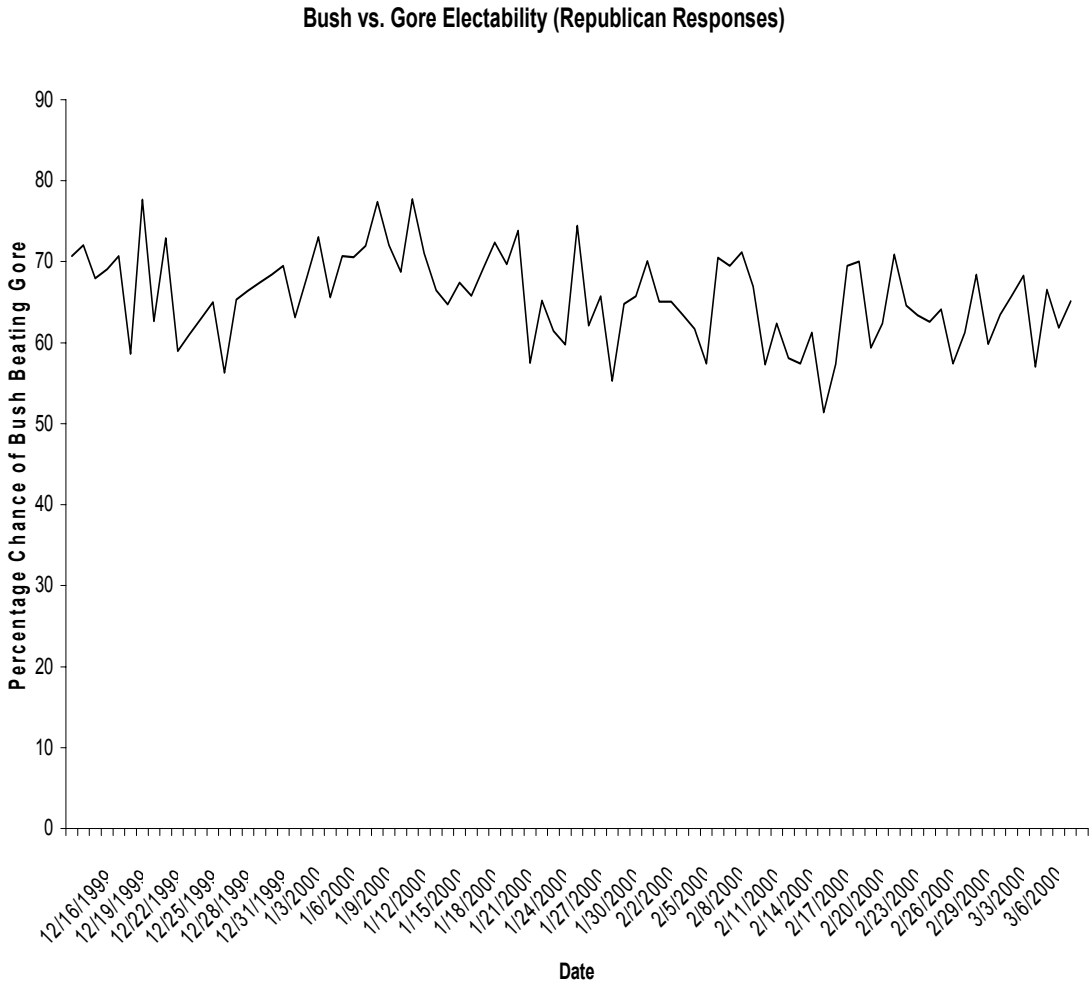

Figure 5.10 Bush's Electability vs. Gore (Republican Responses)

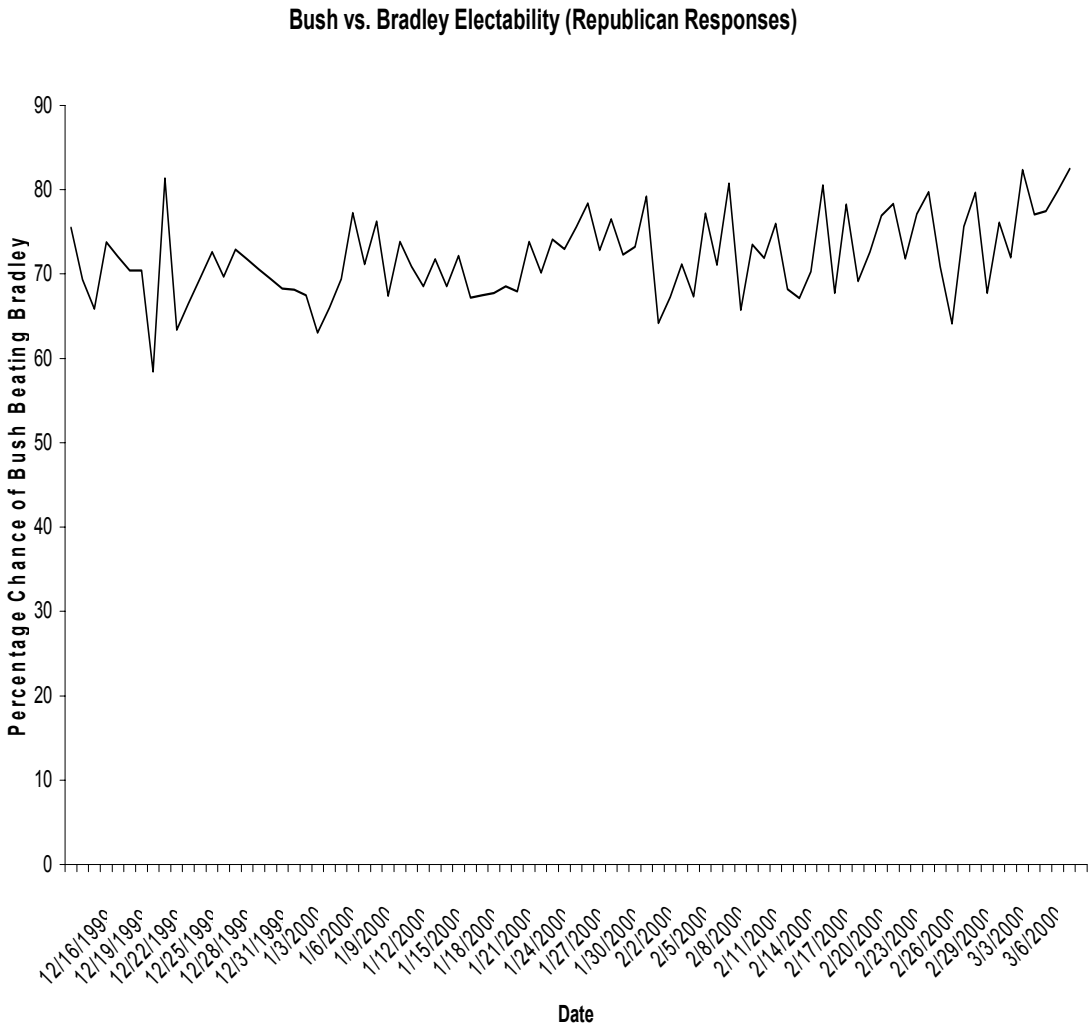

Figure 5.11 Bush's Electability vs. Bradley (Republican Responses)

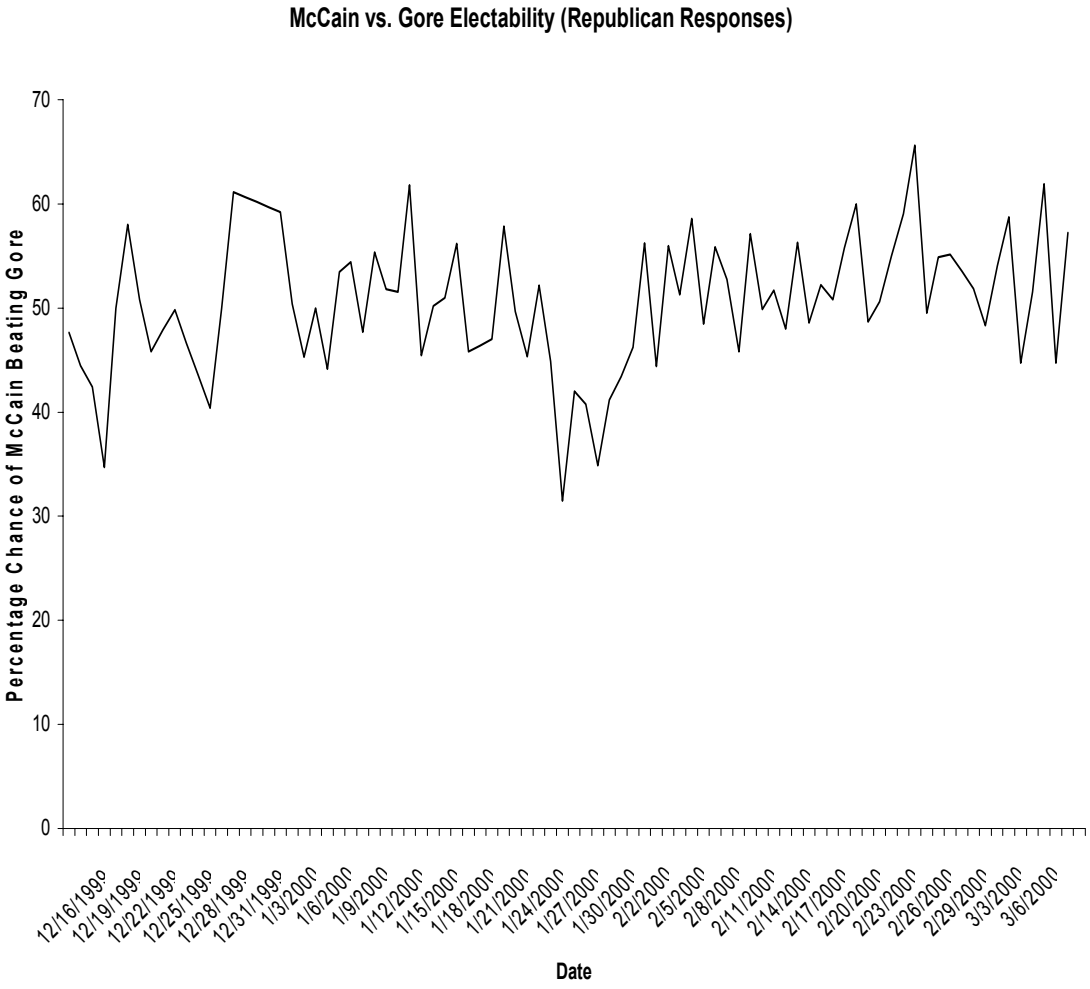

Figure 5.12 McCain's Electability vs. Gore (Republican Responses)

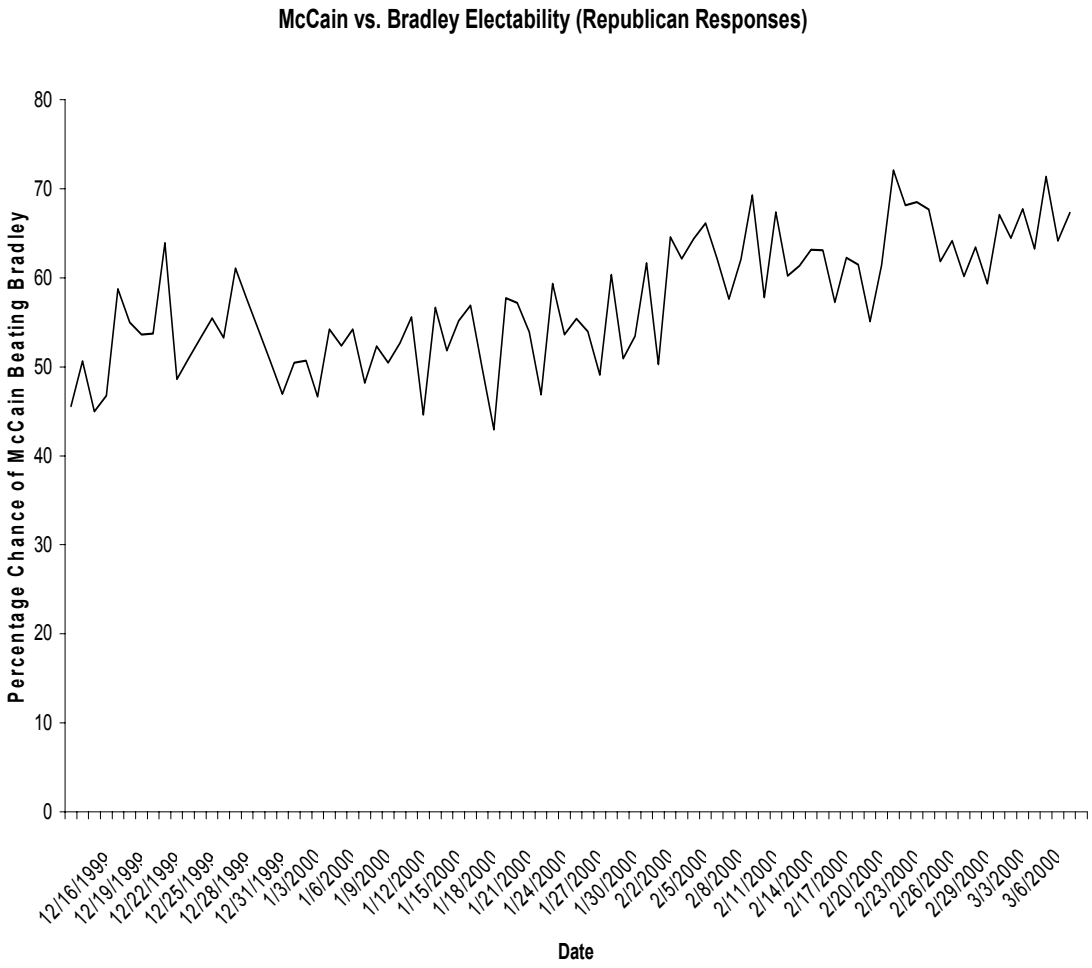

Figure 5.13 McCain's Electability vs. Bradley (Republican Responses)

CHAPTER 6

RATIONAL ELECTORAL EXPECTATIONS IN THE 2000 U.S. PRESIDENTIAL PRIMARIES

The previous chapter shows that expectations influence vote preferences over time, and that changes in expectation levels can lead to changes in support levels. The next question to address is what explains the over-time change in expectations. One way to explain the movement of expectations is the rational electoral expectations hypothesis. Under this hypothesis, the electorate incorporates additional information about candidates in their assessments of the candidates' viability and electability. The forms of information that are available come either directly from the candidate (as measured by candidate spending), or indirectly (as measured by media coverage). By using changes in information levels to explain changes in expectations, we are better able to understand the dynamics of a campaign and how voting decisions are ultimately made.

In this chapter, I apply the rational expectations hypothesis to assessments of candidate viability and electability in the 2000 presidential nomination campaigns in both the Democratic and Republican parties. I do so by first reviewing the rational electoral expectations theory and setting up tests for that theory. Then I look at media coverage and candidate spending and view how they changed over the course of the 2000 campaign. I then carry out tests of the rational electoral expectations theory by combining expectations, media coverage, and candidate spending into multivariate time

series models. I conclude with a discussion of the results from these models and what this means for our understanding of electoral expectations and the study of voting behavior.

6.1 The Theory of Rational Electoral Expectations

In chapter one, I presented a table of the types of electoral expectations that we might expect in a two-candidate race. There are three types of electoral expectations we might find: strong rational electoral expectations, weak rational electoral expectations, and adaptive electoral expectations. We would expect this first type to occur when both candidates are fairly well-known, as voters would readily process information about these candidates. The second type would occur in a match-up between a well-known candidate and a lesser-known candidate, as voters would have a harder time processing or finding information about the lesser-known candidate, and thus waste some of the available information. The final type of expectation would occur in a match-up between two lesser-known candidates, as the public would have little existing knowledge about these candidates and may not even pay attention to information about them, and be unable to process any information they did receive.

Table 6.1 About Here

The 2000 presidential nominations prove to be a good test of this set-up, as all three types of match-ups were possible. Al Gore and George W. Bush were well-known candidates, Gore due to his status as the vice president, and Bush due to his name recognition stemming from his father. Bill Bradley and John McCain were both lesser-

known at the national level heading into the campaign. We can test for each type of electoral expectation by looking at several different combinations of two-way match-ups between these candidates.

For the strong rational electoral expectations type, we can look at the race between Al Gore and George W. Bush, as both were well-known candidates. We can look at this expectation by looking at the electability question that asked about their chances of beating each other in the general election, given they won their respective party nominations.

For the weak rational electoral expectations type, we can look at several different match-ups. We can look at the individual viabilities of Bush and McCain, as well as the two-way viability of Gore versus Bradley. We can also look at the electability questions that pit Bush against Bradley and Gore against McCain. Each of these represents an instance in which a better-known candidate is matched up against a lesser-known candidate.

Finally, for the adaptive electoral expectations type, we can look at the electability of Bradley versus McCain. This features the two lesser-known candidates facing off against each other. Given their lower profile, voters may have a harder time deciding how to incorporate information about these candidates, and may rely solely on previous expectations of the candidates to form their future forecasts. This would be more in line with an adaptive expectations approach. Table 6.2 summarizes the match-ups according to what type of candidates are faced against each other, and table 6.3 shows how what type of electoral expectation each match-up is supposed to meet

Table 6.2 About Here

Table 6.3 About Here

As noted in chapter two, the standard way to test for strong rational expectations is to look at the errors of the forecasts and make sure they are not biased or correlated to anything else. To do so, the researcher must compare the forecasts to objective measures of the variable in question. However, this is not possible when looking at electoral expectations. There are no objective measures of whether John McCain would beat Al Gore in a head-to-head match-up, since no such election ever occurred. We have an objective measure of whether Al Gore could beat George W. Bush, but the measure only represents one time point, and is a simple dichotomy between winner and loser. Therefore, there are no objective measures by which we could compare our forecasts to actual outcomes, preventing us from taking the traditional approach to testing for strong rational expectations. Therefore, what I consider strong rational electoral expectations to be is somewhat different from the standard economic literature. Here, I consider strong rational electoral expectations to occur when the electorate incorporates all available information about the given match-up. So when I test for strong rational expectations between Bush and Gore, I will expect to find that media coverage and candidate spending *of both candidates* are important factors in determining the expectations of that match-up. This leads to hypothesis one:

> *H1: When two well-known candidates face off against each other, expectations about the outcome will be influenced by the media coverage and candidate spending of both candidates.*

Similarly, tests for weak rational electoral expectations will take on a different form from standard practice. Here, I will look to see that at least *some* of the information

about the candidates is incorporated into assessments of candidate chances. It may be that the electorate will only use information about the well-known candidates, Bush and Gore, when setting their expectations for these races. This leads to hypothesis two:

> *H2: When a well-known candidate faces off against a lesser-known candidate, expectations about the outcome will be influenced by some, but not all, of the media coverage and candidate spending of the two candidates.*

Finally, the test for non-rational electoral expectations will be relatively straight-forward. Only past values of the expectations series will be expected to enter into the future forecasts. Information about the candidates will have no effect on these expectations. This leads to hypothesis three:

> *H3: When two lesser-known candidates face off against each other, expectations about the outcome will be influenced solely by past expectations.*

These three hypotheses set up the basis for testing electoral expectations. In the next section, I briefly discuss the media and candidate spending series from the 2000 campaign. After that I turn to direct tests of the electoral expectations hypotheses.

6.2 Media Coverage and Candidate Spending

There are two hypothesized sources of information about the candidates in a campaign: the media and the candidates themselves. In this section, I look at these two sources of information and how they changed over the campaign. What becomes apparent from doing so is that these variables are dynamic, and change over the course of the campaign.[35]

[35] The time series properties, including the levels of integration, of these variables are discussed in Appendix B.

For information from the candidates themselves, a measure of candidate expenditures is used. Expenditures data is used because we are interested in the information that the candidates are providing directly to the electorate. They provide this information by spending money on advertisements, campaign events, and mass mailings, among other methods. Monetary receipts are not an appropriate measure to use here, as simply raising money does not directly convey information to voters. Success in fund-raising can be an indication of a successful campaign, but the information about that fund-raising is conveyed to the voters by way of either the media or from the candidate through advertisements and other paid sources of information.

The media coverage of the four candidates reflects the relative competitiveness of the two races. The Republican race was consistently more competitive than the Democratic race, where Bill Bradley failed to win a single primary. There was much more media coverage of both George W. Bush and John McCain than there was of either Bradley or Al Gore. Table 6.4 presents the summary statistics for the media coverage of the candidates. The media coverage was coded in a positive/negative/neutral scheme, making different combinations of the data possible. Total media coverage consists of all the media coverage allotted to a candidate in a given day, while the "ratio" variables consist of positive coverage minus the negative coverage.[36]

Table 6.4 About Here

[36] This is not a true ratio, of course, in the sense that I do not divide it by the total number of words. This is because it is important to the theory to emphasize the total amount of news coverage, rather than presenting it as a percentage. If using a percentage of coverage, then there may be little difference between coverage of Bill Bradley and George Bush, even though there was much more total coverage of Bush.

As the summary statistics show, there are interesting differences between the parties. Both Republicans gained more coverage than the Democrats, but McCain garnered more attention than did Bush, the party establishment's favored candidate, while Gore gained more attention than did Bradley. The media's deference to John McCain is further illustrated by the fact that he actually had less negative coverage on average than did George Bush, even though he received considerably more positive coverage than Bush. On the Democratic side, Al Gore received more positive and negative coverage than did Bill Bradley, who had the smallest difference between positive and negative coverage, averaging only 18 more positive words than negative words per day.

These statistics, however, represent the entire competitive portion of the campaign, including the latter stages of the campaign, even though the Bradley candidacy was greatly weakened and largely overlooked after the New Hampshire primary. When we look only at media coverage running from December 14th, 1999 to the day of the New Hampshire primary, February 1st, 2000, we get a different picture. Leading up to that time point, there was a much smaller gap between Gore and Bradley in media coverage, and they were actually receiving more media coverage than Bush and McCain. After New Hampshire, however, media coverage swung heavily to the more competitive Republican race, and what coverage there was of Bill Bradley was more negative than it was positive.

Table 6.5 About Here

These numbers are quite striking, and suggest that the media was very focused on the horse race aspects of the 2000 primaries. Prior to New Hampshire, Bush looked

dominant in fundraising and campaigning, while McCain did not even attempt to enter the Iowa caucuses. Bill Bradley, however, had been surprisingly successful at raising money, and seemed potentially more likely to pull an upset. However, following Bradley's large loss in Iowa and McCain's subsequent surprise win in New Hampshire, the media attention pulled away from the Democratic race to the suddenly more interesting Republican race. This occurred even though Bradley was relatively successful in New Hampshire, pulling in a respectable 47% of the vote in the Democratic primary. Nonetheless, media attention pulled away from the Democrats and began to focus on the Republicans.

Despite this sudden shift toward the Republicans, there was considerable variation in media coverage over the entire course of the campaign. Figures 6.1-6.4 show the total daily word counts for each candidate over the course of the campaign. We can see that each candidate had occasional spikes in coverage totals, with Bush having the most consistently high levels of coverage, while McCain and Bradley both had much shorter windows of time in which they garnered high levels of coverage.

Figure 6.1 About Here

Figure 6.2 About Here

Figure 6.3 About Here

Figure 6.4 About Here

Even though the media began pulling away from their coverage of Bill Bradley after the New Hampshire primary, he had still raised a fair amount of money, which was also bolstered by federal matching funds. Thus he could still provide information about

himself to help his candidacy. Table 6.6 shows the mean levels of candidate spending before and after the New Hampshire primary, as well as the mean level for the entire period. What we see from this table is that after the New Hampshire primary, Bill Bradley actually *increased* his average daily spending amounts, and by a greater amount than did Al Gore. This is likely due in part to the structure of federal campaign finance laws, which impose state-by-state spending limits. Prior to New Hampshire, the candidates were focused mostly on one state at a time, while after that primary, there were multiple states they could then go to and spend money. But that is not all that is going on here, as Gore's spending did not increase by as much as Bradley's, even though they had spent relatively similar amounts prior to New Hampshire. Bradley's increased spending during this period is likely attributable to a last-gasp effort at winning something in order to stay viable in the race, whereas Al Gore was able to spend more judiciously, knowing that he would likely win the nomination and need his money for several more months before general election funding kicked in.

On the Republican side, John McCain greatly increased his spending after the New Hampshire primary, thanks in part to increased donations after his win. George Bush also increased his spending, but again, by a smaller amount than did McCain.

Table 6.6 About Here

The Effect of New Hampshire

These basic statistics show that media coverage and candidate spending were not constant throughout the campaign, and did change as the campaign wore on. However, there is a change across all the explanatory variables of interest at the point of the New

Hampshire primary. As a result of this fundamental shift, I make a small modification to the basic vector autoregression model by adding an intervention to the model. This intervention represents the New Hampshire primary. In time series methods, interventions are used to represent changes in the mean of a time series (Enders 1995). These often take the form of changes in policy or specific events (see Enders and Sandler 1993). Since the New Hampshire primary is a source of great change in the variables, we can model it in the VAR models by adding in a non-lagged variable to each equation. For dates leading up to and including the day of the New Hampshire primary, the intervention variable takes on the value of zero, with the variable taking on the value of one for the days after the primary. By inserting this variable, the two-lag form of the VAR equation[37] now becomes:

$$y(t) = a_0 + a_1 p(t) + b_1 y(t-1) + b_2 y(t-2) + e(t) \quad (6.1)$$

where y(t) is a vector of expectations, media coverage, and campaign expenditures, p(t) is the intervention indicating whether or not the New Hampshire primary has occurred, e(t) is an iid error term, and a_i and b_i are parameters.

By inserting the intervention into the model, we take into account the important change that occurs to the time series as a result of the New Hampshire primary. The New Hampshire primary is often when the nomination campaigns become more salient on a national scale, and represents the first time that votes are cast in a primary election. As a result, great attention is paid to the results of the primary, as it kicks off an intensive

[37] This example equation shows the two-lag form of a VAR, in which there are two lags of each endogenous variable entered into the equation. The VAR models shown in this chapter range from having one lag to four lags of each endogenous variable. For a four-lag structure, we would simply add $b_3 y(t-3)$ and $b_4 y(t-4)$. The lag structure is tested for using likelihood ration tests.

period in the campaign. If we did not account for the impact of the New Hampshire primary, then we would be ignoring a vitally important step in the campaign.[38]

6.3 Tests of Rational Electoral Expectations

I now turn to the direct testing of rational electoral expectations. Each type of expectation, starting with adaptive, then weak rational, and finally strong rational, will be tested for in turn. Due to the large potential number of permutations of the models for each typology, I highlight the main findings, with additional tests for each typology shown in Appendix C. Table 6.7 shows the series that are tested in this chapter.

Table 6.7 About Here

Adaptive Electoral Expectations

The first typology is one in which we look primarily for a null finding—that media and campaign spending have no effect on expectations of candidate performance, which are instead based solely on previous expectations of the candidates. We expect this type of expectation to occur when there are two relatively unknown candidates, as information may be difficult to come by for these candidates, and voters have less ability to interpret the information that they are given about these candidates. This occurred in the 2000 elections in the hypothetical general election match-up between Bill Bradley and John McCain.

There are three ways in which we could split up the data for electability. We

[38] Additionally, likelihood ratio tests confirm the importance of including the intervention effect in each of the VAR models.

could look at the pooled responses of both Republicans and Democrats, or we could look at the responses of the voters for each party separately. The reason why we would want to look at the parties separately goes back, in part, to chapter five. What we are fundamentally interested in is how these expectations affect voting preferences. Therefore, we want to look at the responses of those who are going to be voting in the party primary, which leads to how the data is split. Those respondents who said they were planning on voting in the Democratic contest in their state are considered the Democrats here, and those who planned to participate in the Republican contest are counted as the Republicans. Democratic and Republican voters are expected to have at least some difference in their views of the candidates' chances, with Republicans more likely to rate the electability of the Republican candidates higher, and Democrats more likely to rate the electability of the Democratic candidates higher. By splitting the data to look at the voters in each party's contests separately, we can separate out this problem. Looking at the pooled series allows an overall view of the electorate, but one that is perhaps less informative, and less theoretically appropriate, than the individual party series.[39]

When we look at each of the three formulations, we find that there are differences between the parties in their evaluations of the candidates' chances, although in the case of Bradley and McCain the differences are relatively small. Democrats, not surprisingly, judged Bradley's chances of winning such a match-up to be somewhat higher than

[39] On a more practical side, there was a considerably smaller number of independents who did not plan on participating in either party's primary in the sample who responded to questions about candidate expectations, making it very difficult to construct a series based solely on the views of independents.

McCain's, while Republicans believed the reverse. The mean of the pooled responses is almost halfway between the two parties.

Table 6.8 About Here

Tests of the data show strong support for adaptive expectations in the case of the Bradley-McCain race. Media coverage of neither candidate had much impact on expectations of who would win such a match-up in any formulation of the test. Table 6.9 (pooled responses) shows the results of Granger-causality tests for the model using the pooled responses about the electability series, with the media coverage variable coded as positive words minus negative words. While the VAR model can provide coefficients for each variable and its associated lags in the model, these individual coefficients are of relatively little interest. What we are interested in is the overall effect of each variable. In Table 6.9 and the subsequent tables in this chapter, the Granger-causality results are presented, where there is a single joint significance calculated for each variable and its lags. This allows us to see if all of the lags for a specific variable are jointly significant in each equation for each endogenous variable in the model. There is no Granger-causality result for the New Hampshire intervention, since it does not vary over time and has no lagged values in the VAR model.

The results shown in the tables are for the full VAR models, where each endogenous variable serves as a dependent variable in a separate equation. What we are interested in for the theory here is the effect of media coverage and candidate spending on the expectations. However, the Granger-causality results for the associated VAR equations modeling media coverage and candidate spending are also included. Although

there are a few instances in which one or more of these other variables is found to be Granger-caused by some other variable, there is no discernible overall pattern to these findings. Importantly, however, these results also show that expectations do not consistently Granger-cause either coverage or candidate spending.

In this first model, none of the variables are found to Granger-cause electability, except for the past values of electability. This means that assessments of electability are based solely on their prior assessments, and do not incorporate any other information that voters may have about the candidates. This is exactly what we expect of the adaptive electoral expectations hypothesis, where voters are simply not familiar enough with the more unknown candidates to make rational judgments about how changes in the campaign could affect the candidates' chances of beating each other in a general election.

Table 6.9 About Here

What does it mean that voters are adaptive in their expectations about this race? Information that is provided during the campaign appears to make little impact on the voters in terms of their assessments of whether Bradley or McCain is likely to win in a head-to-head match-up. Instead, the voters have little information to begin with about this race, and may base their initial assessments of the match-up on their personal party affiliation or some other affective factor. As the campaign moves forward, voters get information about how likely it is that Bradley could beat Bush, who is the front-runner of the Republicans, and how likely it is that McCain could beat Gore, who is the presumptive Democratic nominee. But voters are not given any information to compare Bradley and McCain. They may learn more about these candidates in relation to the

front-runners, but not in relation to each other, since their chances of winning the party nomination are considered to be small. As a result, expectations about this match-up are based only on previous assessments of this match-up, and additional information has little effect on future assessments.

Democratic respondents are similarly adaptive in their judgments of the hypothetical match-up. When we look at just Democratic respondents, we again find support for the adaptive expectations hypothesis, with the only statistically significant block of lags being the past values of the electability series. Each of the media and campaign expenditures variables fail to Granger-cause electability, and thus have little apparent effect on judgments of the candidates' abilities to beat each other in November.

Table 6.10 About Here

The adaptive expectations hypothesis is not born up in all tests of the series, however. McCain's expenditures do Granger-cause the electability series in the model of just Republican respondents. In this case, the McCain expenditures do have an effect, though each of the other sources of information still fails to have an impact. The Republican supporters apparently were able to bring in outside information in their judgments of McCain's ability to beat Bradley in November, but they only incorporated information coming directly from McCain, and ignored media coverage in their assessments.

Table 6.11 About Here

There are a few reasons why the McCain expenditures could have an impact here. McCain may have been very successful in targeting his supporters, and had a greater impact for that reason. Or it could be due to the increase in his expenditures after the New Hampshire primary, when expectations about his candidacy began to rise. Additionally, McCain increased his efforts to bring in Republicans *after* the New Hampshire primary, which was an open primary, in order to try to compete for Republican voters in closed primary states such as South Carolina. And McCain's efforts to bring in Republicans also focused on his claim that he was the most electable Republican. Although this electability argument focused on his ability to beat Gore, it may have also rubbed off on assessments of his chances against Bradley.

It is helpful to take a closer look at this relationship by graphing the impulse response functions for this model. The impulse response functions show the effect that a one standard deviation shock in an independent variable has on the dependent variable. In this case, we can treat the expectation as the dependent variable, with candidate expenditures and media coverage as the independent variables. Figure 6.5 shows this for each of the four expenditure and media variables. Also shown are the confidence intervals for the impulse responses. What we look for is an effect where the confidence intervals do not include zero. In three of the graphs, we see that the confidence interval contains zero at all points along the line. In the graph for McCain's expenditures, however, the confidence intervals do not include zero at the three day mark. This means that McCain's expenditures took a few days to have an effect, but when they did finally affect the expectation, there was a sharp negative effect. Previous and subsequent days were not affected by the shock at a statistically significant level. This indicates that the

information provided by McCain actually had a negative impact among Republican voters in terms of his electability. This may be because he was focusing his efforts on bringing in more moderate Republicans and independents and cross-over Democrats, which could have a negative effect on many Republican nomination activists who may have had more conservative views.

Figure 6.5 About Here

Despite the finding of these expenditures having an effect on this expectation, it is the only instance in which an adaptive expectations model does not fit the data for the Bradley-McCain match-up. The remaining evidence on this match-up strongly supports the theory that an adaptive electoral expectations model is the appropriate way to characterize the contest between two lesser-known candidates.

Weak Rational Electoral Expectations

The next typology is one that provides an even larger number of potential tests. Representative findings are again discussed here, with the remaining formulations presented in Appendix C. What is expected to be found in these tests is that expectations about the chances of a candidate in a match-up between a well-known candidate (Bush or Gore) and a lesser-known candidate (Bradley or McCain) are dependent on some, but not all, available information about the two candidates. So we might find that in a match-up between Bush and Bradley that information about Bush is important, but information about Bradley is not. Or we might find that only media coverage of the candidates is significant, and spending is not. The key is that voters use some additional information

about the candidates' chances other than just the previous expectation levels, but they do not use all the information that is relevant to the particular race.

Overall, there is strong support for weak rational electoral expectations. The pattern fitting WREE is found to some degree in all of the potential match-ups between a well-known candidate and a lesser known candidate. There are nine general forms of expectations that would adhere to the WREE hypothesis: Bush vs. Bradley electability (Democratic responses, Republican responses, and pooled responses), Gore vs. McCain electability (Democratic responses, Republican responses, and pooled responses), Gore vs. Bradley viability, McCain viability, and Bush viability. Out of these nine forms of the expectations variables, WREE is found to some degree in eight. The one exception is found in the race between Al Gore and John McCain, and is discussed below. In each of the eight cases that fit the theory, there is some additional information that is used to explain the expectation of a candidate's chances at winning election. Whether it is media coverage, candidate expenditures, or some combination of both, WREE is an accurate portrayal of these expectations. Three main models are presented here, representing the match-ups between Bush and Bradley, Gore and Bradley, and Gore and McCain.

The match-up between George W. Bush and Bill Bradley shown in Table 6.12 is a good example of the WREE findings. In the model using pooled responses, both of the media coverage variables Granger-cause the electability series. The expenditure variables do not Granger-cause electability, which is not entirely surprising. Bush and Bradley were not focused on beating each other, as their main rivals were McCain and Gore. Therefore, information that the candidates would have provided about themselves would have served more to show their differences with the other two candidates, not with

each other. The information from the media, however, could more clearly define the differences between the two candidates, especially in terms of their chances of beating each other. As a result, the model shows evidence of weak rationality, in that voters incorporated some of the information about the candidates, but not all of the possible information in their assessments of the candidates' chances.

Table 6.12 About Here

When we look at the impulse response functions for this model, we see that both Bradley coverage and Bush coverage have statistically significant effects at the two day point. Both shocks are positive, meaning a one standard deviation shock in each level of coverage led to an increase in expectations of Bradley winning. This is interesting, as we would have expected Bush coverage to have the opposite effect. The Bush effect is smaller than the Bradley effect, though not by very much. It is also interesting that the impulse responses have the same overall form for both Bradley and Bush's coverage, with a statistically significant effect at the two day mark, and then a quick decline before gradually fading out.

Figure 6.6 About Here

A second example of WREE is the viability series measuring expectations of the match-up between Gore and Bradley. In this case, however, Gore's expenditures are left out of the model,[40] and only one variable—Bradley's total media coverage—is found to Granger-cause the Democratic viability series. The Democratic race was over quickly,

[40] Likelihood ratio tests confirm that the Gore expenditures variable can be safely left out of the model.

and most voters already knew a great deal about Al Gore, so the information that was most relevant to Gore's chances of winning the Democratic nomination would actually be information about Bill Bradley. The result is that only media coverage of Bradley was incorporated into the expectations of this race. It is possible that if the Democratic race had been more competitive for a longer period of time, the dynamics of the race could have been quite different, and expectations of the outcome of the race may have exhibited stronger signs of weak rationality.

Table 6.13 About Here

The third example of WREE is from the match-up between Gore and McCain. Here, the model again finds that one source of information Granger-causes the electability series—this time it is McCain's expenditures. This is not surprising, as McCain specifically promoted himself as the best candidate to beat Al Gore. The information coming directly from McCain, therefore, was directly targeted at this dependent variable, and it appears that this information did have an effect. The specification of this model is again slightly different from previous models, in that Gore expenditures are left out, as they were against Bradley, and media coverage is included as positive coverage of Gore and negative coverage of McCain. This specification is used since Democrats may be more likely to pay attention to positive information about Gore, while Republicans, who tended to support Bush over McCain, may have been more likely to listen to negative information about McCain. Neither of the media coverage variables, however, Granger-cause the electability series.

Table 6.14 About Here

The one exception to the WREE findings is the match-up between Al Gore and John McCain among Republican respondents. Models of these respondents find that some additional information, be it media coverage and/or campaign expenditures, does Granger-cause the electability series. The problem, however, is that the lags of the electability series do not Granger-cause themselves. This means that voters are ignoring their previous assessments of the candidates' chances, and instead are relying on one or two sources of information to come up with new judgments of their electability. While this does mean that the voters are using outside, available information about the candidates in setting their expectations, it is not done in a rational way. To be rational, voters should be adjusting their previous levels of electability based on the new information. Since the voters are ignoring these prior levels of electability, they are not rational when they incorporate the new information. This pattern does not even meet the relatively low threshold of adaptive electoral expectations. Instead, voters appear to be acting randomly when making predictions of this match-up. Table 6.15 presents one of these models, in which the only variable that Granger-causes the electability series is McCain's spending. Various other specifications of the model using Republican responses to the electability question also failed to meet the standards of WREE.

Table 6.15 About Here

The impulse response functions for this model show some very wide variation in the impact of shocks. In the impulse response functions of other models, the effects of the shocks gradually die out, with the impulse response and its associated confidence interval converging to zero. However, the impulse response functions of the variables in

this model do not move towards zero. The McCain expenditures have a statistically significant effect, but not until four days after the shock occurs, when it has a positive effect. Other than that day, however, the trend in the effect of the McCain expenditures is mostly below the zero point, indicating a negative effect, although the effect for these other days is not statistically significant.

Figure 6.7 About Here

Strong Rational Electoral Expectations

The last typology I test for is strong rational electoral expectations (SREE), where the two candidates are both well-known, and thus voters are expected to be able to process all information about the candidates in setting their expectation levels for them. To test for SREE, there are again several different formulations of the variables that can be used. And again, by splitting the respondents by party, we find some attitudinal differences in their assessments of the candidates' chances of winning, with Democrats believing Al Gore to be more likely to beat George W. Bush than Republicans believed.

Table 6.16 shows summary statistics for the three series that represent assessments of Gore's chances of beating Bush in a general election match-up. Among Democrats, the average chance of Gore winning is 53.16%, while among Republicans, his chances are judged to be only 34.38%. There is clearly a difference here between partisans in their assessments of the general election match-up. When all respondents are pooled together, the average chance of Gore defeating Bush is 43.50%, roughly halfway between the assessed chances of the Democratic and Republican respondents.

Table 6.16 About Here

To find strong rational electoral expectations, we must meet a very strict standard. Voters are required incorporate all available information about the candidates in setting their expectations. Thus we would expect to find that all of the media and campaign expenditures variables should be statistically significant influences on expectation levels. This is a tough order, as it requires a considerable amount of cognitive effort on the part of voters. And indeed, the tests for SREE fail to live up to that standard. Instead, the patterns in the data are more representative of *weak* rational electoral expectations. Thus, the match-up of two well-known candidates is still characterized by rational expectations, but voters do not incorporate all available information, thus they do not meet the requirements of SREE.

Table 6.17 shows the VAR-intervention model of Democratic responses to the Gore vs. Bush electability question. In the model, the media coverage is represented by daily word totals for both candidates. The usage of positive and/or negative coverage does not seem to have as much influence on the Democratic respondents in this case. What we do see is again the pattern of weak rational electoral expectations. The Democratic respondents incorporate information about Gore into their assessments of his chances against Bush, with both Gore's media coverage and his expenditures Granger-causing the electability variable. Information about Bush fails to Granger-cause electability in this case.

Table 6.17 About Here

The impulse response functions for this model show what we would expect for the Democratic series: a one standard deviation shock in both Gore's coverage and his expenditures lead to a statistically significant positive increase in the expectation series. What is more surprising is how quickly these shocks filter out, with the impulse responses quickly heading towards zero by the second day. The effects of shocks to the Bush series also close out quickly, though those effects are not statistically significant at any point.

Figure 6.8 About Here

The results for Republican assessments of the same race are somewhat similar to those of the Democratic respondents, in that WREE is found instead of SREE, although the model's specification changes slightly. In the Republican model, simple word totals or ratios were not sufficient to find rationality in expectations of candidate chances. Instead, rationality is only found when media coverage is modeled as negative coverage of Gore along with positive coverage of Bush. This makes sense, as Republicans would be more likely to be critical of Gore, and less likely to be critical of Bush. Any negative coverage of Bush could be discounted due to perceived liberal media bias, and the same could be true of positive Gore coverage. Nonetheless, the media coverage variables do not themselves Granger-cause the electability series, rather electability is Granger-caused by both of the expenditure series, implying that Republicans were less influenced by the media information than they were by information directly related to them by the candidates.

An additional modification is made to the Republican model, in that the series of Republican vote choice is also necessary to find rational electoral expectations. The preference variable Granger-causes the electability series, although the electability series does not Granger-cause the preference series. This may indicate that there was some amount of projection going on with the Republican side, in that Bush supporters may have thought that Bush stood a better chance against Gore than did McCain's supporters, and their preferences then influenced electability. When we control for this projection effect, we find weak rational electoral expectations, yet when we do not control for projection, any evidence of rationality disappears.

The apparent projection effect also works nicely to help explain the media coverage variables that are used in the Republican model. If Bush supporters were projecting their preferences in the electability series, then they would also be likely to ignore positive coverage of Gore or negative coverage of Bush. As a result, Republicans appear to be both rational, in their incorporation of information directly from the candidates, and partly irrational, in that they allow their preferences to influence their expectations.

Table 6.18 About Here

The impulse response functions for the Republican model again conform to what we would expect, with the shock in Gore's expenditures having a negative effect and the shock in Bush's expenditures having a positive effect. The only other difference is that Bush's expenditures have a more immediate effect, achieving statistical significance at

the first day after the shock, while Gore's expenditures took an extra day to have a statistically significant effect.

Figure 6.9 About Here

Given the large differences between Democrats and Republicans in their separate models, it is not surprising that when the responses are pooled together into one series, even weak rationality is lost. Instead, the pooled responses are more indicative of adaptive expectations, with only past values of the electability series Granger-causing current values. Various specifications of the model fail to find any evidence of rational expectations in the pooled series. Table 6.19 presents one such model, which shows that the pooled responses meet the standards of adaptive expectations, but fail to show any rationality.

Table 6.19 About Here

Why are weak rational electoral expectations found in the case of Bush versus Gore in the Democratic and Republican models? There are two main explanations. The first reason may be that the data used actually starts too late. Bush and Gore were long expected to be the nominees of their respective parties. The data used here starts on December 14th, 1999, while voter expectations about whether or not Bush could beat Gore in the general election had been forming for quite some time before that. The other candidates involved only began entering into the national conscious in late 1999, so any match-ups dealing with those candidates would be more appropriately measured using

the starting point of the Annenberg study. There is little that can be done about this problem, however.

The second explanation for why weak rational electoral expectations is found is that because Bush and Gore had been expected to be the nominees for so long, that expectations about that race were relatively firm, and outside information would not be as effective in changing these assessments as they might otherwise have been. As a result, only some information would affect these assessments of Bush and Gore's electability. The finding of weak rational expectations, therefore, is the result of voters already having firm ideas about the chances of Bush and Gore beating each other.

Republican Information Processing

One interesting finding that is outside the theory of rational electoral expectations is the type of information that is incorporated into the WREE models. In particular, Republicans in every match-up used information supplied directly by the candidates. The only time that Republicans incorporated media information into their expectations was in the models of Republican viability.[41] In all of the electability models restricted to Republican responses, campaign expenditures by at least one candidate Granger-caused the electability series, while media coverage failed to Granger-cause any of these series. Whether this is due to Republicans perceiving the media as having a liberal bias, and therefore being untrustworthy as a source of reliable information, or some other cause, it is a problem outside the realm of this current study. It is an interesting finding, however, and suggests that further research should explore this point.

[41] The Republican viability models are shown in Appendix C.

6.4 Conclusion

Although the evidence for rational electoral expectations is not perfect, there is strong evidence that voters do follow the expected patterns in forming their expectations of candidate chances. When two lesser-known candidates are matched up against each other, voters generally rely only on the previous level of expectations to make new forecasts, rather than incorporating information about candidates that they are unfamiliar with, thus meeting the requirements of adaptive expectations. In almost every match-up in which a well-known candidate is involved, voters use additional information to set their expectations of the candidates' chances. While this usage of information never goes so far as to meet the requirements of strong rational expectations, it does fit quite well within the framework of weak rational expectations.

Table 6.20 presents a summary of the theorized expectation type (strong rational, weak rational, or adaptive) along with the types actually found in the data. For the most part, the theory of rational electoral expectations holds up quite well. The strong rational electoral expectations type is not found in the data, with that match-up between Bush and Gore falling more into the category of weak rational electoral expectations. But strong rationality is a difficult test to meet, and it is not surprising that voters fail to achieve that standard. Almost all of the other formulations of the expectations fit into the patterns expected, with only two exceptions, both of which involved the combination of John McCain and Republican respondents.

Table 6.20 About Here

The key finding here is that voters are not sitting idly by as the campaign moves forward. They are paying attention to information about the candidates, whether it is from the candidates themselves or provided by the media. They use this information to then set their expectations about how likely a candidate is to win the nomination or general election. These expectations are then used in forming preferences of who to vote for in the party nomination (as shown in chapters four and five). By identifying the source of why expectations change over the course of a campaign, we are getting at the actual root of why preferences towards candidates change over the course of the campaign as well.

In general, we can see from the results in this chapter that campaigns are important—the information that campaigns provide to voters can (indirectly) impact the choices that are made, by influencing expectations about the candidates' chances. If we had instead found that all electoral expectations were actually adaptive expectations, then campaigns could be seen as less important, as the information provided throughout the course of a campaign would have little impact on voter decision-making. By finding evidence for weak rational electoral expectations, we can see how the information provided by a campaign can be incorporated into the views of the voters and eventually translated into votes.

This is an important step forward in our understanding of campaigns and their impact. Over the course of the campaign, voters can adapt to changes in information about candidates, whether it is supplied by the media or directly by the candidates. By identifying the way in which these changes in information can eventually influence vote

preferences, we are better able to understand the process of how voters make their decisions in nomination campaigns.

	Well-known candidate	**Not-well-known candidate**
Well-known candidate	Strong rational expectations	Weak rational expectations
Not-well-known candidate	Weak rational expectations	Adaptive expectations

Table 6.1 Types of Rational Expectations for Two-Candidate Races with Well-Known and Not-Well-Known Candidates

	Well-known candidate	**Not-well-known candidate**
Well-known candidate	George W. Bush vs. Al Gore	--
Not-well-known candidate	Bush vs. John McCain Gore vs. McCain Bush vs. Bill Bradley Gore vs. Bradley	Bradley vs. McCain

Table 6.2 Match-Ups in the 2000 Presidential Nominations

Bush vs. Gore	Strong rational expectations*: all media coverage and candidate expenditures*
Bush vs. John McCain ***Gore vs. McCain*** ***Bush vs. Bill Bradley*** ***Gore vs. Bradley***	*Weak rational expectations*: some mix of media coverage and candidate expenditures
Bradley vs. McCain	*Adaptive expectations*: prior assessments of electability only

Table 6.3 Hypothesized Findings for 2000 Presidential Match-ups

Variable	Mean
Gore Word Total	258.06
Gore Positive – Negative	28
Gore Positive	136.08
Gore Negative	108.08
Bradley Word Total	210.36
Bradley Positive – Negative	17.97
Bradley Positive	106.65
Bradley Negative	88.69
Bush Word Total	458.24
Bush Positive – Negative	63.43
Bush Positive	243.42
Bush Negative	179.99
McCain Word Total	484.35
McCain Positive – Negative	102.27
McCain Positive	275.59
McCain Negative	173.33

Table 6.4 Media Coverage in the 2000 Presidential Primaries[42]

Variable	Mean Before	Mean After
Gore Word Total	304.57	190.29
Gore Positive – Negative	1.65	66.4
Gore Positive	146.90	120.31
Gore Negative	145.25	53.91
Bradley Word Total	279.08	110.23
Bradley Positive – Negative	49.47	-27.94
Bradley Positive	156	34.74
Bradley Negative	106.53	62.69
Bush Word Total	288.22	706
Bush Positive – Negative	88.35	27.11
Bush Positive	182.92	331.57
Bush Negative	94.57	304.46
McCain Word Total	253.80	820.29
McCain Positive – Negative	76.67	139.57
McCain Positive	160.57	443.2
McCain Negative	83.90	303.63

Table 6.5 Media Coverage Before and After the New Hampshire Primary

[42] The Word Total variables are constructed as positive + negative + neutral coverage. Thus adding the positive and negative counts together will not equal the word totals presented here. The neutral coverage is only of interest in terms of the total amount of coverage in a day, thus those numbers are not presented here.

Candidate	Total Mean Daily Spending	Mean Daily Spending Before New Hampshire	Mean Daily Spending After New Hampshire
Al Gore	$191.77	$157.39	$241.85
Bill Bradley	$244.26	$153.50	$376.15
George Bush	$380.56	$331.16	$452.54
John McCain	$294.63	$171.36	$474.24

Table 6.6 Candidate Spending in the 2000 Nominations (in Thousands of Dollars)

Adaptive Expectations	*Bradley vs. McCain: Democratic, Republican, and Pooled Series*
Weak Rational Expectations	Bush vs. Bradley: Pooled Series Gore vs. Bradley: Democratic Viability Gore vs. McCain: Pooled and Republican Series
Strong Rational Expectations	Bush vs. Gore: Democratic, Republican, and Pooled Series

Table 6.7 Tests of Rational Expectations in the 2000 Presidential Nominations—Match-Ups Shown in Text

	Mean	Standard Deviation
Among Democrats	51.79	7.66
Among Republicans	42.75	6.91
Pooled Responses	47.16	6.89

Table 6.8 Summary Statistics of Bradley vs. McCain Electability Series (Chances of Bradley Winning)

Equation's Dependent Variable	Block of Lagged Coefficients	Joint Significance Level (p-value)
Bradley vs. McCain Electability	Bradley vs. McCain Electability	0.000***
	McCain Media Coverage (Positive – Negative)	0.883
	Bradley Media Coverage (Positive – Negative)	0.873
	McCain Expenditures	0.529
	Bradley Expenditures	0.929
McCain Media Coverage	Bradley vs. McCain Electability	0.683
	McCain Media Coverage (Positive – Negative)	0.976
	Bradley Media Coverage (Positive – Negative)	0.100
	McCain Expenditures	0.378
	Bradley Expenditures	0.948
Bradley Media Coverage	Bradley vs. McCain Electability	0.169
	McCain Media Coverage (Positive – Negative)	0.922
	Bradley Media Coverage (Positive – Negative)	0.337
	McCain Expenditures	0.554
	Bradley Expenditures	0.538
McCain Expenditures	Bradley vs. McCain Electability	0.402
	McCain Media Coverage (Positive – Negative)	0.902
	Bradley Media Coverage (Positive – Negative)	0.670
	McCain Expenditures	0.959
	Bradley Expenditures	0.102
Bradley Expenditures	Bradley vs. McCain Electability	0.157
	McCain Media Coverage (Positive – Negative)	0.420
	Bradley Media Coverage (Positive – Negative)	0.371
	McCain Expenditures	0.596
	Bradley Expenditures	0.000***

*** Variable Granger-causes the dependent variable at 99% level of significance.
** Variable Granger-causes the dependent variable at 95% level of significance.
* Variable Granger-causes the dependent variable at 90% level of significance.

Table 6.9 Adaptive Expectations—Granger Causality Tests of the VAR Intervention Model of Bradley vs. McCain (Pooled Responses)[43]

[43] For this model, likelihood ratio tests selected a model with four lags of each independent variable. The New Hampshire intervention variable enters into the equation as a non-lagged deterministic variable, thus it is not included in the Granger Causality tests.

Equation's Dependent Variable	Block of Lagged Coefficients	Joint Significance Level (p-value)
Bradley vs. McCain Electability	Bradley vs. McCain Electability	0.000***
	McCain Media Coverage (Positive – Negative)	0.879
	Bradley Media Coverage (Positive – Negative)	0.866
	McCain Expenditures	0.208
	Bradley Expenditures	0.634
McCain Media Coverage	Bradley vs. McCain Electability	0.890
	McCain Media Coverage (Positive – Negative)	0.813
	Bradley Media Coverage (Positive – Negative)	0.249
	McCain Expenditures	0.998
	Bradley Expenditures	0.922
Bradley Media Coverage	Bradley vs. McCain Electability	0.278
	McCain Media Coverage (Positive – Negative)	0.974
	Bradley Media Coverage (Positive – Negative)	0.872
	McCain Expenditures	0.339
	Bradley Expenditures	0.490
McCain Expenditures	Bradley vs. McCain Electability	0.047**
	McCain Media Coverage (Positive – Negative)	0.749
	Bradley Media Coverage (Positive – Negative)	0.713
	McCain Expenditures	0.830
	Bradley Expenditures	0.009***
Bradley Expenditures	Bradley vs. McCain Electability	0.886
	McCain Media Coverage (Positive – Negative)	0.432
	Bradley Media Coverage (Positive – Negative)	0.795
	McCain Expenditures	0.055*
	Bradley Expenditures	0.000***

*** Variable Granger-causes the dependent variable at 99% level of significance.
** Variable Granger-causes the dependent variable at 95% level of significance.
* Variable Granger-causes the dependent variable at 90% level of significance.

Table 6.10 Adaptive Expectations— Granger Causality Tests of the VAR Intervention Model of Bradley vs. McCain (Democratic Responses)[44]

[44] Likelihood ratio tests select 2 lags for this model.

Equation's Dependent Variable	Block of Lagged Coefficients	Joint Significance Level (p-value)
Bradley vs. McCain Electability	Bradley vs. McCain Electability	0.000***
	McCain Media Coverage (Positive – Negative)	0.723
	Bradley Media Coverage (Positive – Negative)	0.205
	McCain Expenditures	0.043**
	Bradley Expenditures	0.313
McCain Media Coverage	Bradley vs. McCain Electability	0.836
	McCain Media Coverage (Positive – Negative)	0.822
	Bradley Media Coverage (Positive – Negative)	0.999
	McCain Expenditures	0.603
	Bradley Expenditures	0.539
Bradley Media Coverage	Bradley vs. McCain Electability	0.289
	McCain Media Coverage (Positive – Negative)	0.226
	Bradley Media Coverage (Positive – Negative)	0.786
	McCain Expenditures	0.879
	Bradley Expenditures	0.962
McCain Expenditures	Bradley vs. McCain Electability	0.680
	McCain Media Coverage (Positive – Negative)	0.785
	Bradley Media Coverage (Positive – Negative)	0.467
	McCain Expenditures	0.000***
	Bradley Expenditures	0.043**
Bradley Expenditures	Bradley vs. McCain Electability	0.496
	McCain Media Coverage (Positive – Negative)	0.643
	Bradley Media Coverage (Positive – Negative)	0.741
	McCain Expenditures	0.012**
	Bradley Expenditures	0.923

*** Variable Granger-causes the dependent variable at 99% level of significance.
** Variable Granger-causes the dependent variable at 95% level of significance.
* Variable Granger-causes the dependent variable at 90% level of significance.

Table 6.11 Weak Rational Electoral Expectations— Granger Causality Tests of the VAR Intervention Model of Bradley vs. McCain (Republican Responses)[45]

[45] Likelihood ratio tests select 2 lags for this model.

Equation's Dependent Variable	Block of Lagged Coefficients	Joint Significance Level (p-value)
Bush vs. Bradley Electability	Bush vs. Bradley	0.000***
	Bush Coverage (Positive – Negative)	0.002***
	Bradley Coverage (Positive – Negative)	0.047**
	Bush Expenditures	0.230
	Bradley Expenditures	0.234
Bush Coverage (Positive – Negative)	Bush vs. Bradley	0.803
	Bush Coverage (Positive – Negative)	0.702
	Bradley Coverage (Positive – Negative)	0.721
	Bush Expenditures	0.313
	Bradley Expenditures	0.962
Bradley Coverage (Positive – Negative)	Bush vs. Bradley	0.350
	Bush Coverage (Positive – Negative)	0.131
	Bradley Coverage (Positive – Negative)	0.292
	Bush Expenditures	0.615
	Bradley Expenditures	0.824
Bush Expenditures	Bush vs. Bradley	0.915
	Bush Coverage (Positive – Negative)	0.800
	Bradley Coverage (Positive – Negative)	0.575
	Bush Expenditures	0.737
	Bradley Expenditures	0.888
Bradley Expenditures	Bush vs. Bradley	0.445
	Bush Coverage (Positive – Negative)	0.004***
	Bradley Coverage (Positive – Negative)	0.634
	Bush Expenditures	0.251
	Bradley Expenditures	0.848

*** Variable Granger-causes the dependent variable at 99% level of significance.
** Variable Granger-causes the dependent variable at 95% level of significance.
* Variable Granger-causes the dependent variable at 90% level of significance.

Table 6.12 Weak Rational Expectations—Granger Causality Tests of the VAR Intervention Model of Bush vs. Bradley Electability (Pooled Responses)[46]

[46] Likelihood ratio tests select 1 lag for this model.

Equation's Dependent Variable	Block of Lagged Coefficients	Joint Significance Level (p-value)
Gore vs. Bradley Viability	Gore vs. Bradley Viability	0.000***
	Gore Word Total	0.660
	Bradley Word Total	0.089*
	Bradley Expenditures	0.793
Gore Word Total	Gore vs. Bradley Viability	0.303
	Gore Word Total	0.900
	Bradley Word Total	0.259
	Bradley Expenditures	0.184
Bradley Word Total	Gore vs. Bradley Viability	0.235
	Gore Word Total	0.012**
	Bradley Word Total	0.000***
	Bradley Expenditures	0.818
Bradley Expenditures	Gore vs. Bradley Viability	0.614
	Gore Word Total	0.472
	Bradley Word Total	0.876
	Bradley Expenditures	0.791

*** Variable Granger-causes the dependent variable at 99% level of significance.
** Variable Granger-causes the dependent variable at 95% level of significance.
* Variable Granger-causes the dependent variable at 90% level of significance

Table 6.13 Weak Rational Electoral Expectations—Granger Causality Tests of the VAR Intervention Model of Gore vs. Bradley Viability[47]

[47] Likelihood ratio tests select 1 lag for this model.

Equation's Dependent Variable	Block of Lagged Coefficients	Joint Significance Level (p-value)
Gore vs. McCain Electability	Gore vs. McCain Electability	0.079*
	Positive Gore Coverage	0.789
	Negative McCain Coverage	0.732
	McCain Expenditures	0.053*
Positive Gore Coverage	Gore vs. McCain Electability	0.664
	Positive Gore Coverage	0.785
	Negative McCain Coverage	0.982
	McCain Expenditures	0.862
Negative McCain Coverage	Gore vs. McCain Electability	0.040**
	Positive Gore Coverage	0.565
	Negative McCain Coverage	0.560
	McCain Expenditures	0.009***
McCain Expenditures	Gore vs. McCain Electability	0.133
	Positive Gore Coverage	0.833
	Negative McCain Coverage	0.025**
	McCain Expenditures	0.000***

*** Variable Granger-causes the dependent variable at 99% level of significance.
** Variable Granger-causes the dependent variable at 95% level of significance.
* Variable Granger-causes the dependent variable at 90% level of significance

Table 6.14 Weak Rational Electoral Expectations—Granger Causality Tests of the VAR Intervention Model of Gore vs. McCain Electability (Pooled Responses)[48]

[48] Likelihood ratio tests select 1 lag for this model.

Equation's Dependent Variable	Block of Lagged Coefficients	Joint Significance Level (p-value)
Gore vs. McCain Electability	Gore vs. McCain Electability	0.977
	Gore Coverage (Positive – Negative)	0.634
	McCain Coverage (Positive – Negative)	0.950
	Gore Expenditures	0.728
	McCain Expenditures	0.082*
Gore Coverage (Positive – Negative)	Gore vs. McCain Electability	0.012**
	Gore Coverage (Positive – Negative)	0.133
	McCain Coverage (Positive – Negative)	0.013**
	Gore Expenditures	0.947
	McCain Expenditures	0.479
McCain Coverage (Positive – Negative)	Gore vs. McCain Electability	0.124
	Gore Coverage (Positive – Negative)	0.738
	McCain Coverage (Positive – Negative)	0.213
	Gore Expenditures	0.083*
	McCain Expenditures	0.886
GoreExpenditures	Gore vs. McCain Electability	0.921
	Gore Coverage (Positive – Negative)	0.470
	McCain Coverage (Positive – Negative)	0.987
	Gore Expenditures	0.727
	McCain Expenditures	0.246
McCain Expenditures	Gore vs. McCain Electability	0.036**
	Gore Coverage (Positive – Negative)	0.722
	McCain Coverage (Positive – Negative)	0.685
	Gore Expenditures	0.109
	McCain Expenditures	0.000***

*** Variable Granger-causes the dependent variable at 99% level of significance.
** Variable Granger-causes the dependent variable at 95% level of significance.
* Variable Granger-causes the dependent variable at 90% level of significance

Table 6.15 Irrational Expectations?—Granger Causality Tests of the VAR Intervention Model of Gore vs. McCain Electability (Republican Responses)[49]

[49] Likelihood ratio tests select 4 lags for this model.

	Mean	Standard Deviation
Among Democrats	53.16	6.00
Among Republicans	34.38	5.50
Pooled Responses	43.50	3.87

Table 6.16 Summary Statistics of Bush vs. Gore Electability Series (Chances of Gore Winning)

Equation's Dependent Variable	Block of Lagged Coefficients	Joint Significance Level (p-value)
Gore vs. Bush Electability	Gore vs. Bush Electability	0.067*
	Gore Word Total	0.040**
	Bush Word Total	0.414
	Gore Expenditures	0.067*
	Bush Expenditures	0.159
Gore Word Total	Gore vs. Bush Electability	0.772
	Gore Word Total	0.824
	Bush Word Total	0.767
	Gore Expenditures	0.250
	Bush Expenditures	0.856
Bush Word Total	Gore vs. Bush Electability	0.521
	Gore Word Total	0.345
	Bush Word Total	0.000***
	Gore Expenditures	0.414
	Bush Expenditures	0.728
Gore Expenditures	Gore vs. Bush Electability	0.618
	Gore Word Total	0.824
	Bush Word Total	0.336
	Gore Expenditures	0.374
	Bush Expenditures	0.725
Bush Expenditures	Gore vs. Bush Electability	0.181
	Gore Word Total	0.363
	Bush Word Total	0.525
	Gore Expenditures	0.094*
	Bush Expenditures	0.957

*** Variable Granger-causes the dependent variable at 99% level of significance.
** Variable Granger-causes the dependent variable at 95% level of significance.
* Variable Granger-causes the dependent variable at 90% level of significance.

Table 6.17 Weak Rational Electoral Expectations—Granger Causality Tests of the VAR Intervention Model of Bush vs. Gore Electability (Democratic Responses)[50]

[50] Likelihood ratio tests select 1 lag for this model.

Equation's Dependent Variable	Block of Lagged Coefficients	Joint Significance Level (p-value)
Bush vs. Gore Electability	Bush vs. Gore Electability	0.054*
	Negative Gore Coverage	0.564
	Positive Bush Coverage	0.122
	Gore Expenditures	0.067*
	Bush Expenditures	0.052*
	Bush Voter	0.035**
Negative Gore Coverage	Bush vs. Gore Electability	0.780
	Negative Gore Coverage	0.779
	Positive Bush Coverage	0.106
	Gore Expenditures	0.890
	Bush Expenditures	0.856
	Bush Voter	0.908
Positive Bush Coverage	Bush vs. Gore Electability	0.005***
	Negative Gore Coverage	0.326
	Positive Bush Coverage	0.658
	Gore Expenditures	0.445
	Bush Expenditures	0.318
	Bush Voter	0.067*
Gore Expenditures	Bush vs. Gore Electability	0.370
	Negative Gore Coverage	0.872
	Positive Bush Coverage	0.494
	Gore Expenditures	0.495
	Bush Expenditures	0.960
	Bush Voter	0.528
Bush Expenditures	Bush vs. Gore Electability	0.531
	Negative Gore Coverage	0.900
	Positive Bush Coverage	0.207
	Gore Expenditures	0.003***
	Bush Expenditures	0.311
	Bush Voter	0.291
Bush Voter	Bush vs. Gore Electability	0.119
	Negative Gore Coverage	0.119
	Positive Bush Coverage	0.046**
	Gore Expenditures	0.706
	Bush Expenditures	0.000***
	Bush Voter	0.745

Table 6.18 Weak Rational Electoral Expectations—Granger Causality Tests of the VAR Intervention Model of Bush vs. Gore Electability (Republican Responses)[51]

[51] Likelihood ratio tests select 4 lags for this model.

Equation's Dependent Variable	Block of Lagged Coefficients	Joint Significance Level (p-value)
Bush vs. Gore Electability	Bush vs. Gore Electability	0.000***
	Gore Coverage (Positive – Negative)	0.255
	Bush Coverage (Positive – Negative)	0.347
	Gore Expenditures	0.329
	Bush Expenditures	0.355
Gore Coverage (Positive – Negative)	Bush vs. Gore Electability	0.976
	Gore Coverage (Positive – Negative)	0.778
	Bush Coverage (Positive – Negative)	0.220
	Gore Expenditures	0.844
	Bush Expenditures	0.969
Bush Coverage (Positive – Negative)	Bush vs. Gore Electability	0.104
	Gore Coverage (Positive – Negative)	0.777
	Bush Coverage (Positive – Negative)	0.583
	Gore Expenditures	0.188
	Bush Expenditures	0.202
Gore Expenditures	Bush vs. Gore Electability	0.981
	Gore Coverage (Positive – Negative)	0.358
	Bush Coverage (Positive – Negative)	0.419
	Gore Expenditures	0.364
	Bush Expenditures	0.647
Bush Expenditures	Bush vs. Gore Electability	0.694
	Gore Coverage (Positive – Negative)	0.627
	Bush Coverage (Positive – Negative)	0.697
	Gore Expenditures	0.123
	Bush Expenditures	0.890

*** Variable Granger-causes the dependent variable at 99% level of significance.
** Variable Granger-causes the dependent variable at 95% level of significance.
* Variable Granger-causes the dependent variable at 90% level of significance.

Table 6.19 Adaptive Expectations—Granger Causality Tests of the VAR Intervention Model of Bush vs. Gore Electability (Pooled Responses)[52]

[52] Likelihood ratio tests select 1 lag for this model.

Match-Up	Hypothesized Type	Actual Type
Bush vs. Gore	Strong Rational Electoral Expectations	Weak Rational Electoral Expectations*
Bush vs. Bradley	WREE	WREE
Gore vs. McCain	WREE	WREE**
Gore vs. Bradley	WREE	WREE
Bush Viability	WREE	WREE
McCain Viability	WREE	WREE
Bradley vs. McCain	AEE	AEE***

* Gore vs. Bush is WREE except for the pooled responses, which are AEE.

** Gore vs. McCain is WREE in the Democratic responses, but not in the Republican responses.

*** Bradley vs. McCain is AEE in all but the Republican responses, which are WREE.

Table 6.20 Summary of Findings

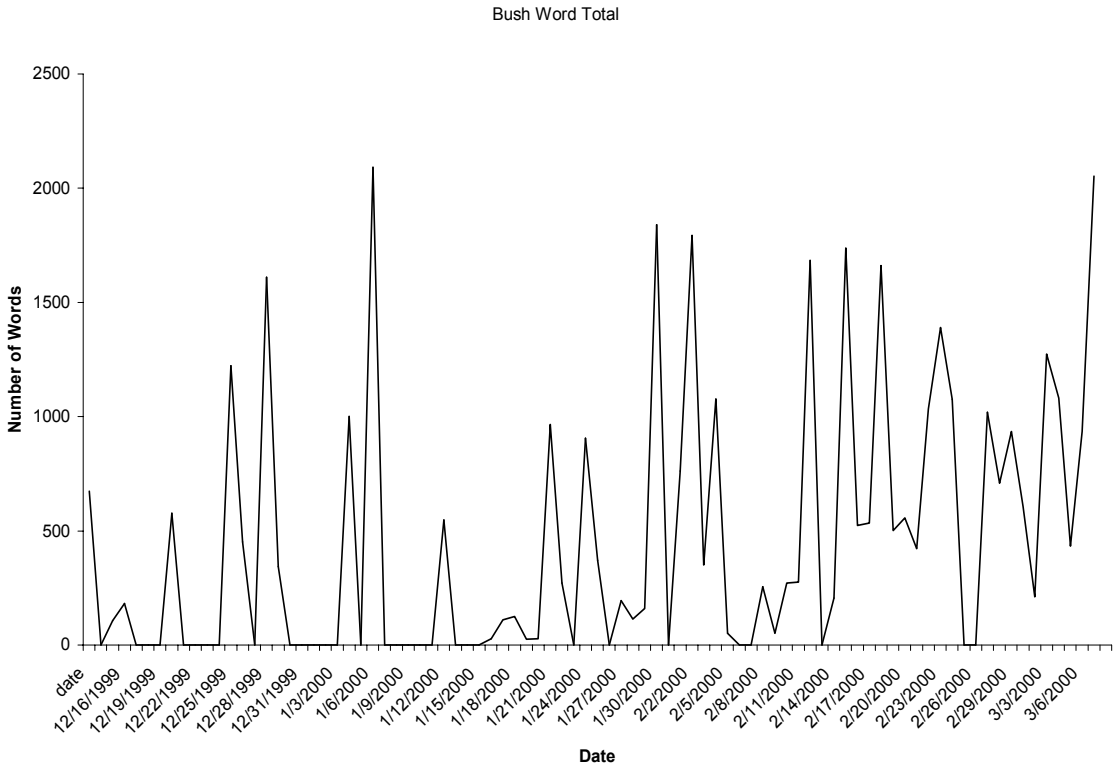

Figure 6.1 Media Coverage of Bush: Daily Word Totals

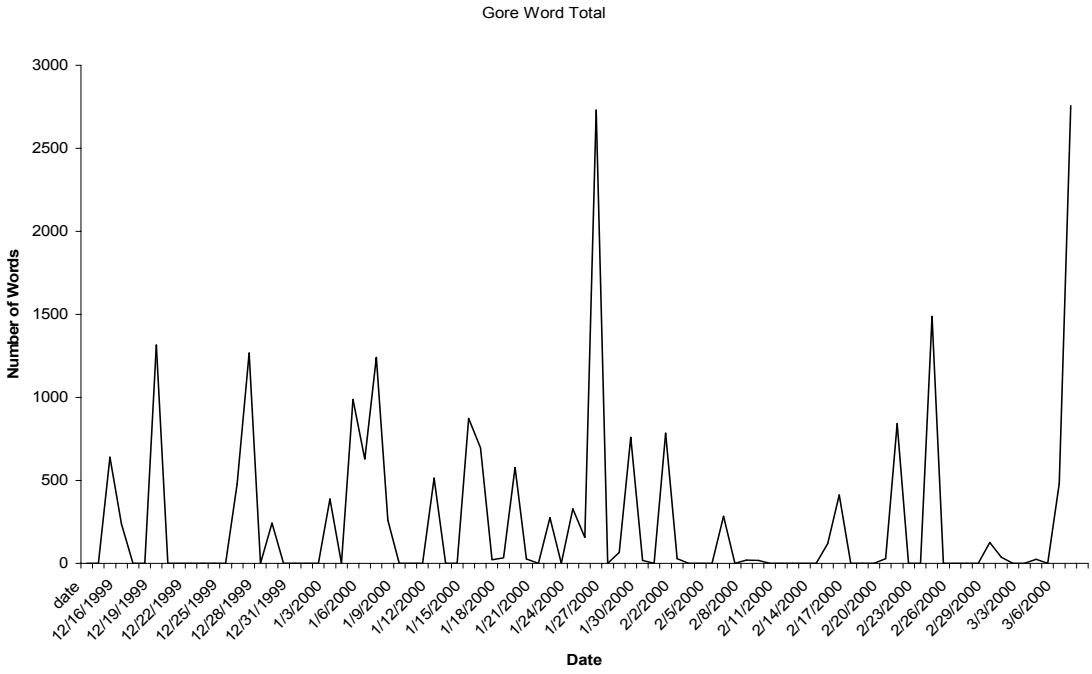

Figure 6.2 Media Coverage of Gore: Daily Word Totals

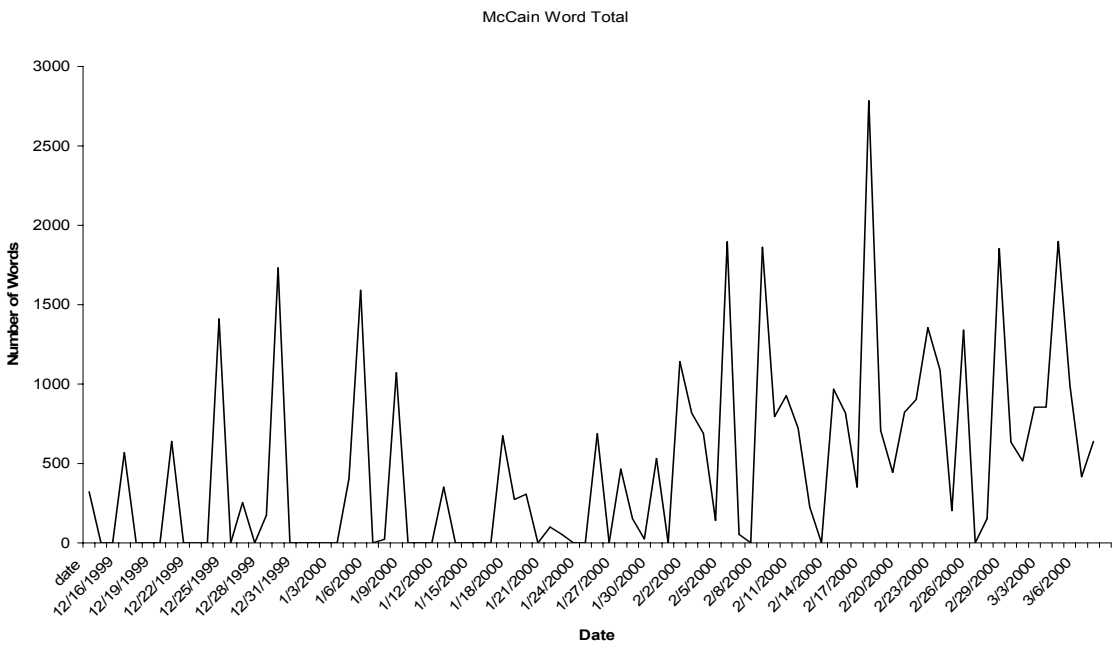

Figure 6.3 Media Coverage of McCain: Daily Word Totals

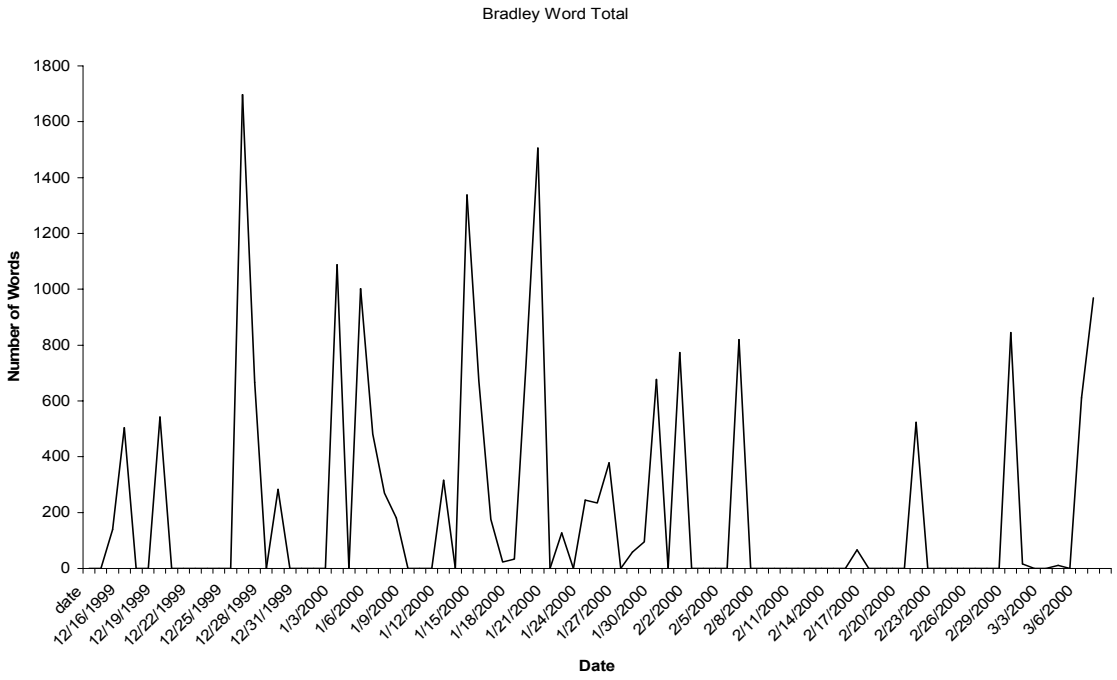

Figure 6.4 Media Coverage of Bradley: Daily Word Totals

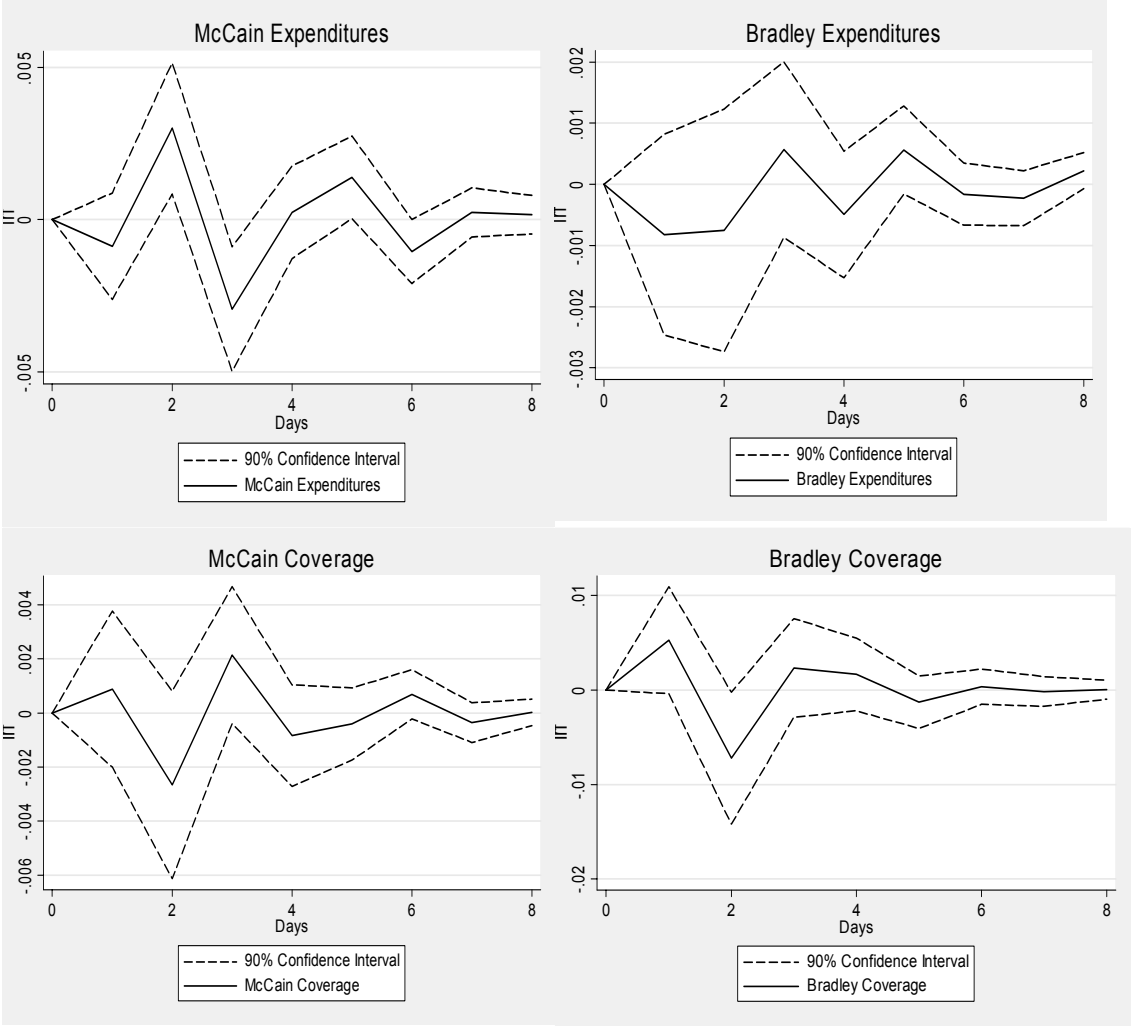

Figure 6.5 Impulse Response Functions for Bradley-McCain Electability Series: Republican Responses

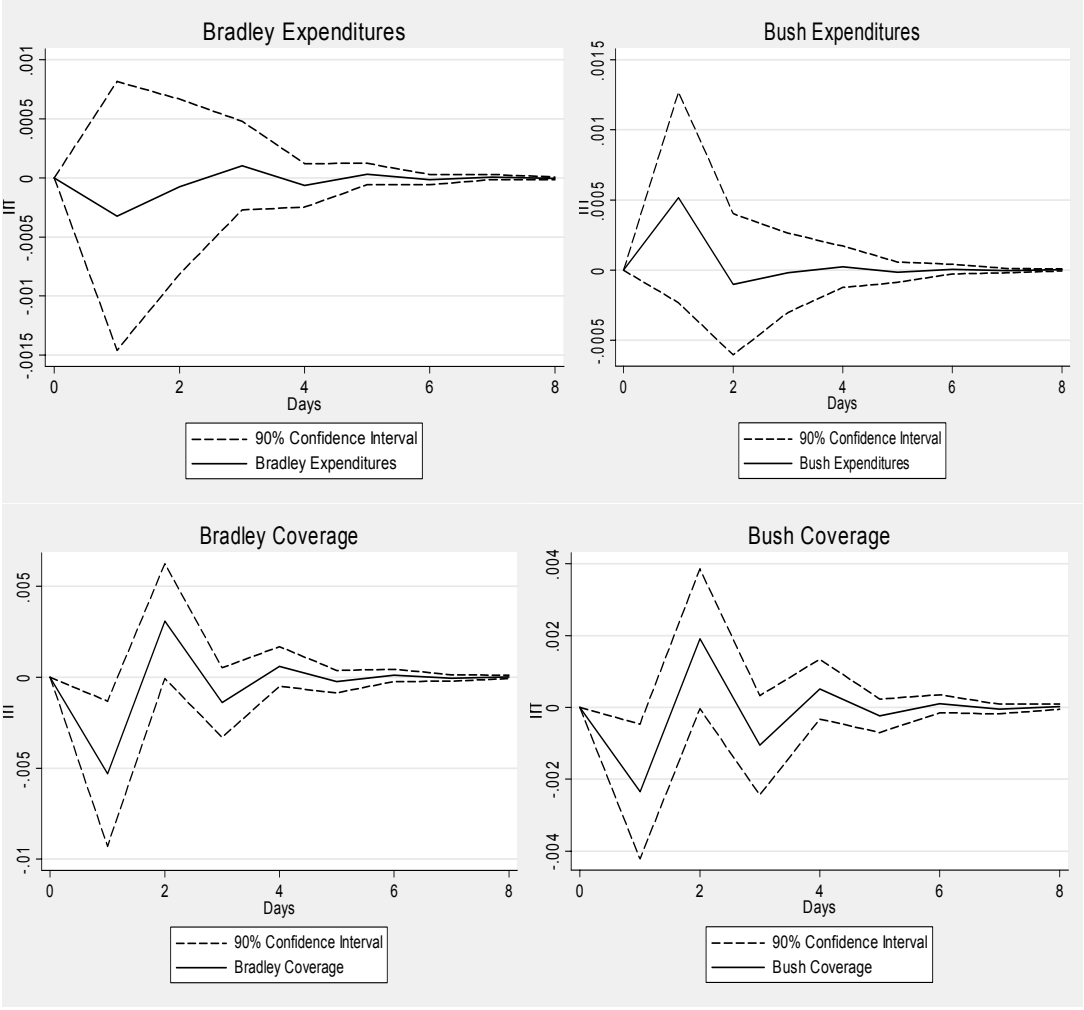

Figure 6.6 Impulse Response Functions for Bradley-Bush Electability Series: Pooled Responses

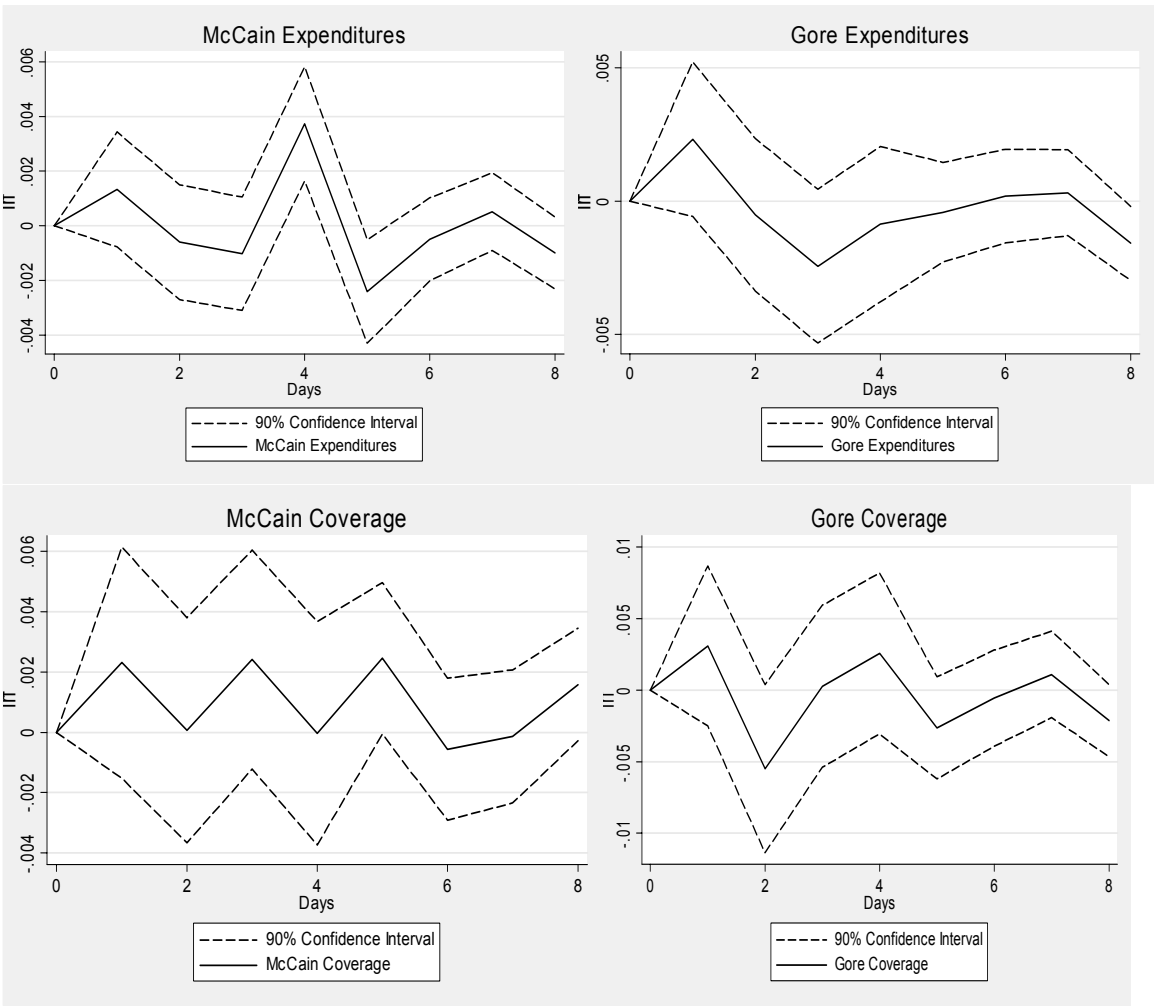

Figure 6.7 Impulse Response Functions for Gore-McCain Electability Series: Republican Responses

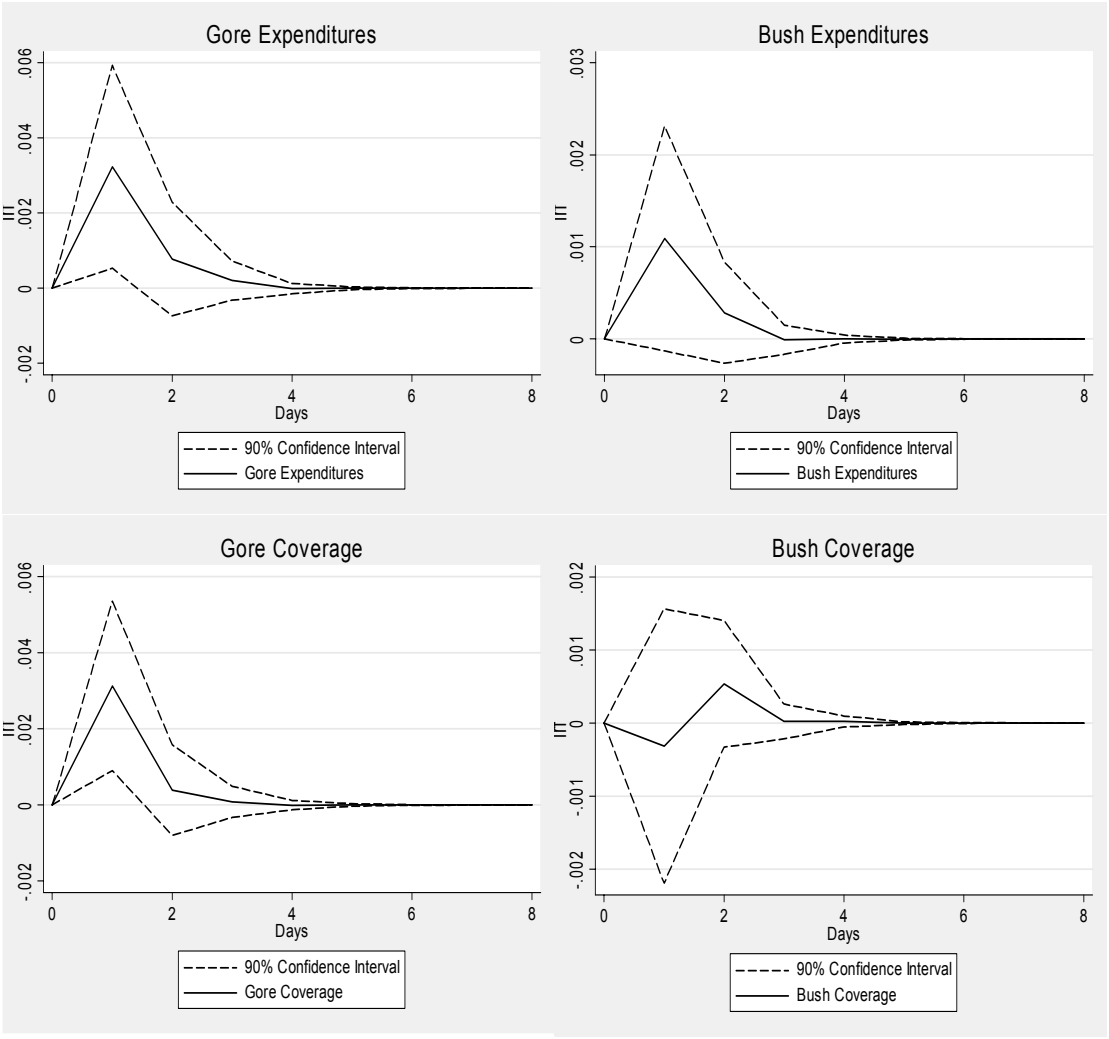

Figure 6.8 Impulse Response Functions for Bush-Gore Electability Series: Democratic Responses

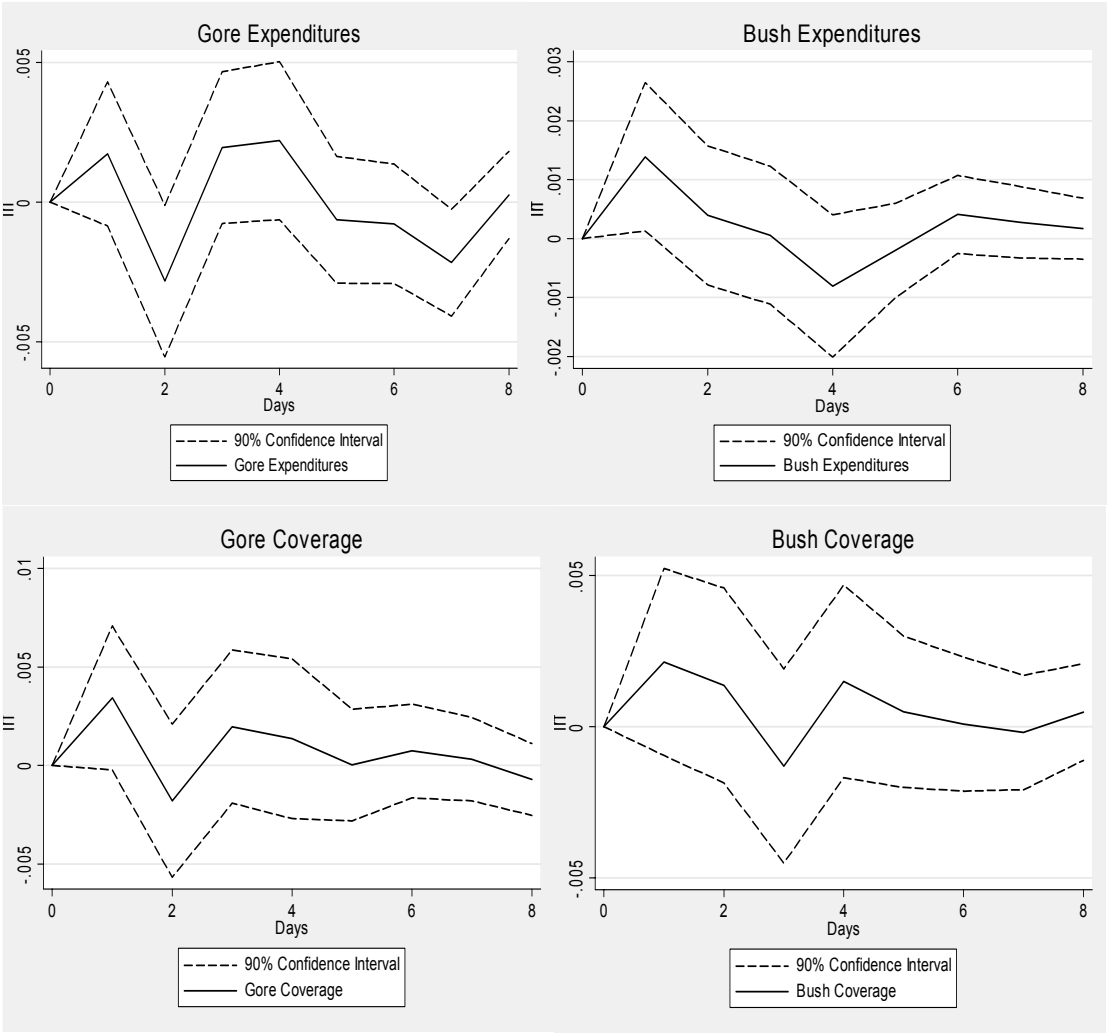

Figure 6.9 Impulse Response Functions for Bush-Gore Electability Series: Republican Responses

CHAPTER 7

THE EFFECT OF RATIONAL ELECTORAL EXPECTATIONS

The first step in the process of selecting almost any elected official in the United States is the party nomination. By winning the support of a major party, candidates gain access to party support, can claim the party label on the ballot, and have an overwhelming advantage over minor party candidates. The general election that follows the nomination campaigns for each party has been studied to great extent, and the decision-making process of voters in the general election is fairly well understood. What has not been studied as much is the manner in which nominees are chosen.

Voters in the general election are constrained to the choices presented to them by the parties, and select only from those candidates who won the major party nomination or run as an independent or minor party candidate. Since major party candidates win the large majority of elections in the United States, it seems considerably important that we understand how the major parties select their nominees. Past research has found a mixed set of factors that can contribute to our understanding of this selection process. Some of these factors, such as ideology and issues and party identification, are understood from their effects on general election voting behavior. But other considerations also enter in to the process in nomination campaigns.

The main goal of party nomination activists is to ensure that their party will win the general election. It is not surprising that members of a party's rank-and-file will find any of their party's candidates preferable to any candidate of the other party. Therefore, in order to meet this goal, nomination activists should select the candidate that they believe has the best chance of winning the general election. However, these activists also have to take into account whether or not the candidate can actually win their own party nomination. If a candidate for the Republican nomination was slightly left of center, making her very electable, it is unlikely she would win the party nomination against a more moderate Republican candidate. The more moderate candidate may have less of a chance to win the general election, but is closer to the party's members, and therefore more likely to win the nomination.

When deciding who to vote for in a nomination campaign, party activists must take these two things into consideration. The first judgment, which is about a candidate's ability to win the general election, is their electability. The second judgment is a candidate's ability to win the party nomination, or their viability. By taking these two expectations of a candidate's chances into account, nomination activists can act more rationally in selecting the best candidate for their party.

The role of expectations on individual-level decision-making is shown in chapter four, where expectations played a clearly important role in both the Democratic and Republican presidential nomination campaigns in 2000. But other factors, such as party identification and ideology, also played a role in those campaigns. So why should we focus more on expectations than these more traditional factors?

Part of the answer is that the traditional factors of ideology and party identification are not variables that change over the relatively short amount of time devoted to a nomination campaign. But we know that vote preferences do change over the course of a campaign. If vote preferences were solely dependent on these static traditional factors, then we would expect very little change in the preferences. Instead, we do find that there is change over time. And this change, as shown in chapter five, can be attributed to changes in expectations.

A great deal of research has been devoted to understanding the traditional factors that influence voting behavior in elections, such as party identification, ideology, and issue positions. But expectations are clearly just as, if not more, important in explaining voting decisions in nomination campaigns. As a result, we need to better understand these factors. The theory of rational electoral expectations is a first step in establishing an understanding of these important variables. By identifying the reasons by which expectations change over the course of a campaign, we are better able to understand the underlying dynamics of the nomination campaign.

In this chapter, I review the argument for the theory of rational electoral expectations and its application to the 2000 presidential nominations. I address why this is important for students of politics and look at additional complications to the problem, and what those might mean for the theory. I follow up by looking to future avenues of research for students of nominations and electoral expectations.

7.1 Rational Electoral Expectations

The theory of rational electoral expectations seeks to explain why expectations move over the course of a campaign. Why do assessments of Al Gore's chances of beating George W. Bush change from one day to the next? Is it merely chance that causes daily fluctuations, or are there specific factors that influence voters' perceptions of Gore's ability to beat Bush? To understand why expectations change, we can look at two theories borrowed from the field of economics: rational expectations and adaptive expectations.

The first theory, rational expectations, argues that to be rational in setting their expectations about future events, people must incorporate available information about the event. These events can be any future event, such as future stock prices, or future interest rates, or future elections. In order to behave rationally, people should take current levels of the event and bring in any information that might affect that future event. They can then make a rational assessment of what that future stock price or other event will be.

The theory of rational electoral expectations argues that expectations about a candidate's chances of winning either the nomination or general election are influenced by available information. For voters to be rational when looking at expectations, they have to use some information about the candidates and the campaign. This information can take on many forms, but derives from two main sources: the candidate him/herself, or the media. For a voter to behave rationally, they should then take any information they receive from the media and/or the candidate, process that information along with their previous expectations about the candidate's chances, and then set their new expectation of that candidate's chances of winning election.

For adaptive expectations, outside information is ignored. The only thing that affects expectations under an adaptive scheme are prior assessments of a candidate's chances. Information from the candidate or the media will have no effect on these assessments.

Why would electoral expectations, such as electability and viability, conform to rational expectations? Why would we expect nomination activists to behave rationally? The use of expectations in the voting decision is inherently rational. If voters were not rational, then they would vote for candidates based more on affective considerations, such as their affective attachment to a particular candidate. Instead we find that voters do behave rationally when they make their voting decision in a nomination campaign. Expectations are an important part of that decision, which shows that, at least to some extent, voters are behaving rationally on the individual level. When they form their expectations, therefore, we can theorize that they will do so in a rational manner.

And in fact, voters do form their expectations about candidate chances in a manner consistent with the theory of rational electoral expectations. Chapter six presents evidence that shows that whenever there is at least one well-known candidate in a race, voters will form their expectations of the candidates' chances in a rational manner, by incorporating some of the information that they receive from the media and the candidates. In every such match-up in the 2000 presidential nomination campaign, there is some evidence of voters incorporating outside information into their assessments of candidate electability and viability.

Table 7.1 About Here

This evidence does not completely meet the typology set up in chapter one, however. In the initial set-up, it was theorized that in a race between two well-known candidates, such as Al Gore and George W. Bush, the rational expectations would take on a specific form, in which voters used *all* available information. This was characterized as strong rational electoral expectations. But when the data was tested, not all of the information appears to have been used by the voters. Instead, the pattern found for this match-up was consistent with what was expected for a match-up between a well-known candidate and a lesser-known candidate, such as Bill Bradley or John McCain. In that case, it was expected that only some of the information would be used by voters, and this was characterized as weak rational electoral expectations. What the findings of chapter six show is that weak rational electoral expectations is the better characterization of the data for any match-up involving a well-known candidate, whether they are facing a lesser-known challenger or an equally well-known opponent.

When two lesser-known candidates are matched up, however, it is expected that voters would fail to be able to incorporate additional information about the candidates, and future assessments of candidate electability and viability would be based solely on past assessments of these expectations. And this is what was mostly found in match-ups between Bradley and McCain. This occurs because voters are unfamiliar with these candidates, and even when information is presented to the voters about these candidates, the voters are unlikely to either pay attention to the information or know how to process that information and incorporate it into their assessments of the candidates' chances.

The overall results of tests of the rational electoral expectations theory hold quite well with the theorized patterns. The only exception to the theory is that weak rational

electoral expectations are found instead of strong rational electoral expectations. But this could be due to two reasons: first, the data series may not have started early enough, as Bush and Gore were long expected to be their parties' respective nominees. Second, they had been expected to face each other for so long that voters' assessments of their electability were already well formed, reducing the ability of other information to have an effect on these assessments.

The other theorized types of expectations are all well-supported by the results of chapter six. Adaptive expectations are found for match-ups of John McCain and Bill Bradley. Weak rational electoral expectations are found in almost all of the match-ups between a well-known candidate and a lesser-known candidate. Overall, the theory of rational electoral expectations appears to be a very good way to explain why expectations change over the course of a campaign. Simply put, expectations change in response to information about the candidates, whether that information comes from the media or the candidate. By understanding this, we take a step forward in our understanding of these important factors on nomination decision-making.

7.2 Implications

Simply knowing that expectations respond to changes in information is not the only contribution of this theory. By showing how the theory of rational electoral expectations can explain expectations in a nomination campaign, we not only better understand these variables and their effect on nomination decision-making, but we also understand more about how campaigns work, the role of the media, and the role of

campaign finance. The theory also has important implications for our system of nominating presidential candidates and that system's effect on the general election.

The initial goal of setting up a better understanding of electoral expectations in a nomination campaign was to better understand how nomination activists make their decisions about who to support. We know that expectations influence how voters make a decision at the individual level, as this has been shown in both previous research and in the cross-sectional models presented in chapter four. But previous research has not shown that expectations also affect voting preferences over time during the campaign. Chapter five takes an important step forward by showing that expectations can be shown to be the reason for why vote preferences change over the course of the campaign. As a candidate's electability changes, their share of the party vote also changes. This is an important improvement over previous research, in that it brings together what we know about individual-level voting behavior in a nomination with the dynamic nature of a campaign.

This approach also helps to address an additional controversy: the problem of projection effects. While past researchers have struggled to adequately model the potential for expectations to affect vote preferences at the same time that vote preferences might affect those same expectations, the methodological approach used in chapter five allows for tests to see if projection effects do occur. What the results show is that there may be some effect of projection on the viability of the Democratic candidates, but that is the only instance in which vote preferences seem to affect expectations of the candidates' chances. Instead, expectations clearly influence vote preferences over time. Changes in expectations lead to changes in vote preferences, and in very interesting ways. This too

is an important contribution to our understanding of how these variables are related, and allows us to move forward and look at what other factors may influence expectations over the course of a campaign.

It is one thing to know that voters incorporate expectations into their decisions about who to support, but it is also important to understand how those expectations are themselves influenced. What the theory of rational electoral expectations acknowledges is that these expectations are not set in a vacuum. They are formed with additional knowledge about the candidates and the campaign. This additional knowledge can come from two sources: the media and the candidates. By using this information to affect their assessments of candidate chances, voters can be indirectly influenced into voting for specific candidates. If one candidate continually gets all of the media coverage and spends a great deal more money than other candidates, then the voters will have a great deal of information about that candidate. If the other candidate(s) garner very little media attention and have little money to spend, then voters will not gain as much information as they did about the first candidate. As a result, voters can adjust their expectations of the first candidate's ability to win, and will probably do so favorably. The lesser candidate(s), meanwhile, will have little success in getting voters to upgrade their chances of winning. As a result, the candidate with the media and funding advantage will be much more likely to win election.

This process helps to insure that well-known front-runners will almost always win the party nomination. Lesser-known candidates may be able to compete for a short time, but if they do not have a sizable financial advantage, it is unlikely that they will be able to eventually overcome any early perceptions of the front-runner as being the candidate that

will win the nomination. The lesser-known candidate will simply be unable to provide enough information to voters to convince them that he is the more viable and/or electable candidate of the two. This places the lesser-known candidate in a very deep hole out of which he might not be able to get out of in time to win the nomination.

This also leads us to consider the continued concern over the front-loading of primaries that has occurred over the last several presidential nominations. As more and more states move their primaries to earlier in the campaign, this can prevent lesser-known candidates from having enough time to generate media attention about their campaign and get information out to the voters. It also provides less time for the lesser-known candidates to parlay their success in an early primary into fund-raising success, which would in turn allow them to spend more money and get more information out to the voters. By compacting the schedule, well-known candidates are again benefited, as they need to do less in order to get media attention and campaign funding. This again leads to the problem of well-known candidates having a decided advantage over lesser-known candidates.

There is one caution here, however, in that simply being a well-known candidate may not be enough to win a candidate the nomination. A well-known candidate that is viewed negatively by the public may not enjoy the same successes as a well-known candidate that is viewed more positively by the public. If John Ashcroft were to run for president in 2008, for example, he would not enjoy the same benefits that Colin Powell would have. Expectations about both Ashcroft and Powell's chances may be rationally formed, but that does not mean that Ashcroft would beat Powell. Instead, media

coverage would likely focus on Powell's greater ability to win the general election, while Ashcroft would be seen as a much less electable candidate.

Another question that might arise from the theory of rational electoral expectations is why it would matter whether expectations are formed according to weak rationality or strong rationality. Under strong rationality, all available information is used, while some information is discarded under weak rationality and under adaptive expectations. The fact that information is discarded makes a clear difference as to what form electoral expectations take. If the information that is discarded is information about policy positions or ideological positions of the candidates, then this would be very important, as it would indicate that voters in nominations are ignoring substantive information about the candidates in favor of information about who is more likely to win. If voters ignore policy and ideology, then that is a fundamental failure of our democratic system.

The problem, however, is that the data is not able to uncover what information is being discarded. It would take a much more refined, delicate approach to find out what information is being processed, and what is being ignored. For the media data, this would not take much more than content coding for each story to see what was covered. For candidate expenditures, however, it would be very difficult to tell whether money was being spent to promote the candidate's issue positions or simply her ability to excite a crowd at a rally.

The one thing that is found in this dissertation is that Republican voters apparently discounted media coverage of the campaign to a large extent. Instead they responded to candidate expenditures. This may be an indicator of Republican distrust of

the "liberal media," or it may be that the media simply did not provide information that moved Republican voters to change their expectations of the candidates' chances. This pattern may also indicate that the media is not doing a good job of providing the information that is important to a large segment of the population. It is difficult to see why this pattern is found, and indicates that there may be a need for further research into the differences in information processing between members of each party.

The final implication of this dissertation is what it means for general elections. The choices that are presented in the general election consist of the nominees that come out of the two parties, in addition to any minor party or independent candidates. What does it mean when two parties focus on nominating candidates based on their ability to beat each other? It depends in part on the criteria by which electability is judged. If electability is based off ideological positions, then that means both parties will nominate candidates that are close to the median voter. If instead electability is based off an ability to campaign well, then issues and ideology may matter much less. This indicates a need to go further in the study of expectations to identify more individual-level influences on expectations as well. What the theory of rational electoral expectations is able to do is identify why expectations change over the course of time, not why the expectation is set at any specific level for a candidate.

7.3 Complications

Although not the subject of this dissertation, the 2004 Democratic primaries provide a chance to apply the theory of rational electoral expectations to a multi-candidate field in which there were no well-known candidates. At least, there were no

well-known candidates at first. Of the nine Democrats seeking the nomination, Joe Lieberman was perhaps the best known candidate due to his position as Al Gore's running mate in 2000, while Howard Dean was able to raise the most money prior to any votes being cast, and propelled himself into the status of front-runner. Before Dean's emergence, John Kerry had often been mentioned as being the candidate that would be the eventual nominee.

Dean's status as the front-runner and his fund-raising might lead to the erroneous conclusion that he should have won the nomination, which he did not do. Nonetheless, the campaign may be a good illustration of the rational electoral expectations theory. The reason that Dean was seen as ultimately losing the nomination is because voters realized that he was not electable. As voters gained more and more information about him, due to his front-runner status and money, the more they realized that he would not be able to win the general election. As a result, his support fell away. John Kerry, meanwhile, was able to get enough information out about himself to convince voters that he was electable. And John Edwards, while he was the last serious challenger to Kerry, was not able to convince voters that he really was viable or electable, since he did not have enough money to provide information about himself or stay in the race long enough to get media coverage that could provide that information.

Therefore, the theory of rational electoral expectations fits well with what happened in 2004. What this race illustrates is that, although a candidate may enjoy an information advantage over his opponents, that may not be a good thing if that information is negative and actually convinces voters to *not* vote for that candidate. The information about Dean that was provided by the media and other candidates was quite

negative, and made it hard for him to win over voters. This ultimately benefited Kerry, who was helped by positive media coverage, and eventually led him to the nomination.

The 2004 campaign shows what could happen when two additional complications are added in: a multi-candidate race, and a race in which a lesser-known candidate becomes well-known. In the multi-candidate race, the theory of rational expectations should still hold, with one minor change. Lesser-known candidates' viability would be viewed as being weak rational. This is because even if there is not a well-known candidate, there will be a media-appointed front-runner, who can serve as the well-known candidate for purposes of comparisons with the lesser-known candidate. If both parties field multiple candidates, then electability assessments for individual match-ups between lesser-known candidates of each party would be adaptive, while electability match-ups between a front-runner of one party and the lesser-known candidates of the opposing party would still be weakly rational. In 2004, electability assessments would have been between George W. Bush and each of the Democratic candidates, and would therefore be expected to be weakly rational.

The second complication, where a lesser-known candidate becomes well-known, offers a more complex problem, but one that can be dealt with both methodologically and theoretically. On the methodological side, an intervention effect could be inserted in which the size of the intervention increases over time for any models involving that candidate. Additionally, the time series pertaining to that candidate would be expected to have a large value of d, as there would be a strong trend over time for each of the series, including the media and campaign spending variables. As a result, we could difference the data according to the level of d to deal with this, and it would have little effect on our

methodological findings. From a theoretic standpoint, a lesser-known candidate becoming well-known would likely lead to weakly rational expectations in each case, even when matched up with another lesser-known candidate. This is because more and more information about the candidate would be coming out as he became better and better known, and voters would likely incorporate at least some of this information into their assessments of the candidate's chances.

7.4 Future Research

The results of this dissertation apply the theory of rational electoral expectations to the 2000 presidential nominations. While this provides a good first step in the study of electoral expectations and how they are formed, there are several ways in which this research can be extended. The 2000 nominations were just one type of race, in which there were only two main candidates in each party. Additionally, there was no incumbent running in either party. And presidential nominations are not the same as nominations for other offices. The theory of rational electoral expectations could be extended to cover any race that is not as limited, and should follow the same patterns as in the 2000 nominations.

In a multi-candidate race, there will likely be one candidate that will emerge or be promoted to front-runner status by the media. This candidate, even if she was a lesser-known candidate herself, can then serve as the basis for comparisons with other candidates for the likelihood of their winning the nomination. Since the front-runner will be more likely to generate media coverage for her campaign, voters can use this information to judge how likely it is that the front-runner will actually win the

nomination, and therefore whether or not another candidate could win the nomination. This would lead to a finding of weak rational electoral expectations, in which some information about the candidates is incorporated into judgments of their viability. Thus, even in a multi-candidate race, assessments of candidate chances will boil down to a two-candidate comparison in which some, but not all, information about the candidates is used.

When there is an incumbent running in one of the parties, the incumbent takes on the role of the well-known candidate. When candidates from the other party are compared to the incumbent for assessments of electability, there would again be an expectation of weak rationality, where some of the information about the candidates is used, but not all. If a well-known candidate from the opposing party is compared to the incumbent, the expectation may become strongly rational, although it is again important to note that strong rationality was not found in the 2000 nominations, and may be too difficult of a standard to meet for most voters. When lesser-known candidates of either party are compared to the incumbent, the expectations will be weakly rational.

Future research should use the 2004 nomination campaigns to study both of these instances: where there are multiple candidates running for one party's nomination and where there is an incumbent running for re-election. The 2004 election should prove to be a good test of the theory for both of these circumstances.

The final way in which the theory of rational electoral expectations could be extended is to test it on non-presidential nominations. In sub-national elections, primaries only occur at one point in time, which leads to a shorter period of time in which candidates can become known to the public. As a result, well-known candidates will

again be benefited, as lesser-known candidates will have a harder time getting out information about their ability to win the general election or the nomination. Again, if there is a well-known candidate facing a lesser-known candidate, then expectations should be weakly rational. If two or more lesser-known candidates face off against each other in a sub-national election with no well-known candidates, then there may not be weak rationality involved, as even the media may not pay enough attention to the race to appoint a front-runner. As a result, we would be more likely to expect adaptive expectations in this kind of race.

However, at the sub-national level, it may be the case that expectations do not even enter in to the voters' decision-making process. It would be much more difficult to decide which candidate is the most electable in such a low-information race. As a result, expectations may not be an important factor in many of these races. Instead, we may only find that expectations are important in high-profile sub-national elections, such as gubernatorial, senatorial, or congressional elections. In these races, there should be enough information for voters to use expectations in their voting decisions, and these expectations would likely follow the theory of rational electoral expectations. In other elections, however, voters would be unlikely to have such information available to them, and expectations would be irrelevant.

Research into the decision-making of voters in sub-national nominations would help to identify the cases in which expectations are an important factor in voting behavior. The theory of rational electoral expectations could then be extended to these races in order to better understand the impact of campaigns, media, and candidate

spending at the sub-national level. This would be an important step forward in bringing together the decision-making of voters at the national and sub-national levels.

A final avenue for future research stems from the rational electoral expectations theory but does not directly apply it to a campaign. Instead, a more individual-level analysis should be pursued to see what factors influence voters to predict specific chances for a candidate winning the nomination or general election. While information flows over the course of the campaign can explain changes in expectation levels, it is not entirely clear what it is about this information that stimulates voters to change their opinions about a candidate's chances. It could be that the information voters use information about issues and ideology, or it could be about the character of the candidates. Or the information could be about which candidate "looks" the most presidential. A more individual-level analysis could help to get at this question and further inform our understanding of expectations.

Future Data Gathering

Future research would also be better informed if there were a few changes in the data gathering process. The presidential nomination campaign begins well before the first votes are cast in Iowa and New Hampshire. While the Annenberg study took a good first step in beginning their 2000 study in December of 1999, the campaign had been underway for several months before that start date. Future studies of nomination politics should strive for the earliest possible starting point, as far ahead as six months before Iowa and New Hampshire. This would allow researchers to track changes in information

levels to their earliest dates, and get much better insight into how voters set their initial expectations for each of the party candidates.

Although much more expensive, a panel study of voters from each party tracked over the course of the nomination campaign would also provide good data about changes in information levels and expectations over the course of the campaign. The panel could also track individual-level exposure to specific media outlets, which would provide a much closer tie to the information that voters gain than the rougher proxy measure of media coverage used in this dissertation can provide.

Future research should also seek to incorporate a broader segment of media data than looking at only the *New York Times*. Local media especially could have an important impact on voter information levels in nomination campaigns. While the *New York Times* data is a proxy measure for what the prestige press would cover in a given day, it may not be as useful as a proxy for what local media would provide to voters. If the panel study described above were to be employed, researchers could measure the local media sources of each of the panel members, thereby providing a closer tie to what information the voters are receiving about the campaign.

The same method could also be used to track exposure to candidate spending by tying the panel members' media market to the zip codes for expenditures by the candidates. This would be difficult, but if a precise method could be used, would again provide a much closer fit between the measure of candidate spending and what the voters hear.

Finally, the daily sample sizes of the Annenberg study are relatively small, and do not allow for the data to be cut in many ways. For example, voters with pre-existing

differences in their political knowledge are all lumped together into forming the time series for this dissertation. But it is likely that more sophisticated respondents would react differently to changes in information levels about the candidates than less sophisticated respondents. We would be more likely to expect the highly sophisticated respondents to act rationally in their expectations of the candidates, while the less sophisticated respondents would have a harder time incorporating this information. The Annenberg data is limited in what can be done to model this, since the daily sample sizes average around eighty respondents, which makes it difficult to split along party lines and then along political sophistication. Increasing the daily sample sizes would allow for more ways to cut the data in order to show the complex relationships that are likely going on.

7.5 Conclusion

The theory of rational electoral expectations is a good way to characterize how and why expectations change over the course of a campaign. It brings together research on campaign finance, media coverage, and voting behavior into one model that explains how each of these factors interact with each other to eventually influence vote preferences in a nomination campaign. By better understanding these relationships, we are better able to study campaigns and understand how the flows of information in a campaign can affect who a party nominates, and who is eventually elected into office.

This theory shows the importance for candidates of having campaign money as well as gaining media coverage. Without these, candidates are unable to transmit information to nomination activists about their chances of being elected. Without this

information, voters are unlikely to support these candidates, as they will not view those candidates as being able to win election.

There are a variety of ways in which future research can build on the results of this study. By looking at different types of nomination campaigns, with multiple candidates, or with incumbents, we can see how well the theory holds up with additional complications. We can also extend the theory to sub-national elections, where expectations may only be important in high-profile races. Each of these extensions of the theory would be expected to follow the patterns set forth in this study. By moving to these other tests of the theory, the versatility and usefulness of the rational expectations theory could continue to grow.

Political scientists have long sought to understand the way in which campaigns affect who is eventually elected. While past research has done this well for general elections, it has often ignored the crucial step of nomination campaigns. The process of selecting elected officials is best seen as including the nomination campaign, where expectations about the candidates' ability to win election are an important part of voter decision-making. By moving forward in our understanding of electoral expectations, we are able to understand a little more about how campaigns contribute to who voters select to hold office.

	Well-known candidate	**Lesser-known candidate**
Well-known candidate	Weak rational expectations	Weak rational expectations
Lesser-known candidate	Weak rational expectations	Adaptive expectations

Table 7.1 Revised Types of Rational Electoral Expectations

APPENDIX A

CODING SHEET FOR MEDIA COVERAGE DATA

Date: _____ Story #: _____

Title: _____

Photo? Yes/No If Yes, of Who? _____

Top or Bottom Half of Page: _____

Total # of Words in Article: _____

Candidate	Positive	Negative	Neutral
Bush			
Gore			
McCain			
Bradley			
Forbes			

Instructions to Coders:
Code each story as if you were a member of each candidate's campaign. Would you be pleased, displeased, or indifferent towards the specific coverage about your candidate in each story? Count the words for each category and place them in the appropriate box.

For coverage where one candidate is attacking another candidate, count that coverage as negative coverage of the candidate being attacked.

APPENDIX B

TIME SERIES PROPERTIES OF MEDIA COVERAGE AND CAMPAIGN EXPENDITURES

Candidate	Series	(p,d,q)	Estimate of d (standard error)
Gore			
	Positive	(0,d,0)	0 (0.2004)
	Negative	(0,d,0)	0 (0.1040)
	Neutral	(1,d,5)	1 (0.1720)
	Word Total	(0,d,2)	0 (0.1773)
	Difference (Positive – Negative)	(0,d,0)	0.4922 (0.1550)
	Candidate Expenditures	(0,d,0)	0 (0.1045)
Bush			
	Positive	(2,d,2)	0 (0.0969)
	Negative	(0,d,0)	0 (0.0881)
	Neutral	(1,d,3)	1 (0.3556)
	Word Total	(2,d,3)	1 (0.1416)
	Difference (Positive – Negative)	(1,d,1)	1 (0.5244)

Table B.1 Time Series Properties of Campaign Expenditure and Media Coverage Data

(CONTINUED ON NEXT PAGE)

Table B.1 Continued

	Candidate Expenditures	(0,d,0)	0 (0.1117)
Bradley			
	Positive	(0,d,0)	0 (0.0946)
	Negative	(0,d,0)	0 (0.1115)
	Neutral	(0,d,2)	1 (0.1835)
	Word Total	(2,d,2)	0 (0.3877)
	Difference (Positive – Negative)	(0,d,1)	0 (0.2889)
	Candidate Expenditures	(2,d,2)	0 (0.1423)
McCain			
	Positive	(0,d,3)	0.501 (0.2046)
	Negative	(0,d,1)	1 (0.1634)
	Neutral	(0,d,1)	1 (0.1763)
	Word Total	(1,d,3)	1 (0.3616)
	Difference (Positive – Negative)	(0,d,0)	0 (0.0908)
	Candidate Expenditures	(2,d,2)	1 (0.2565)

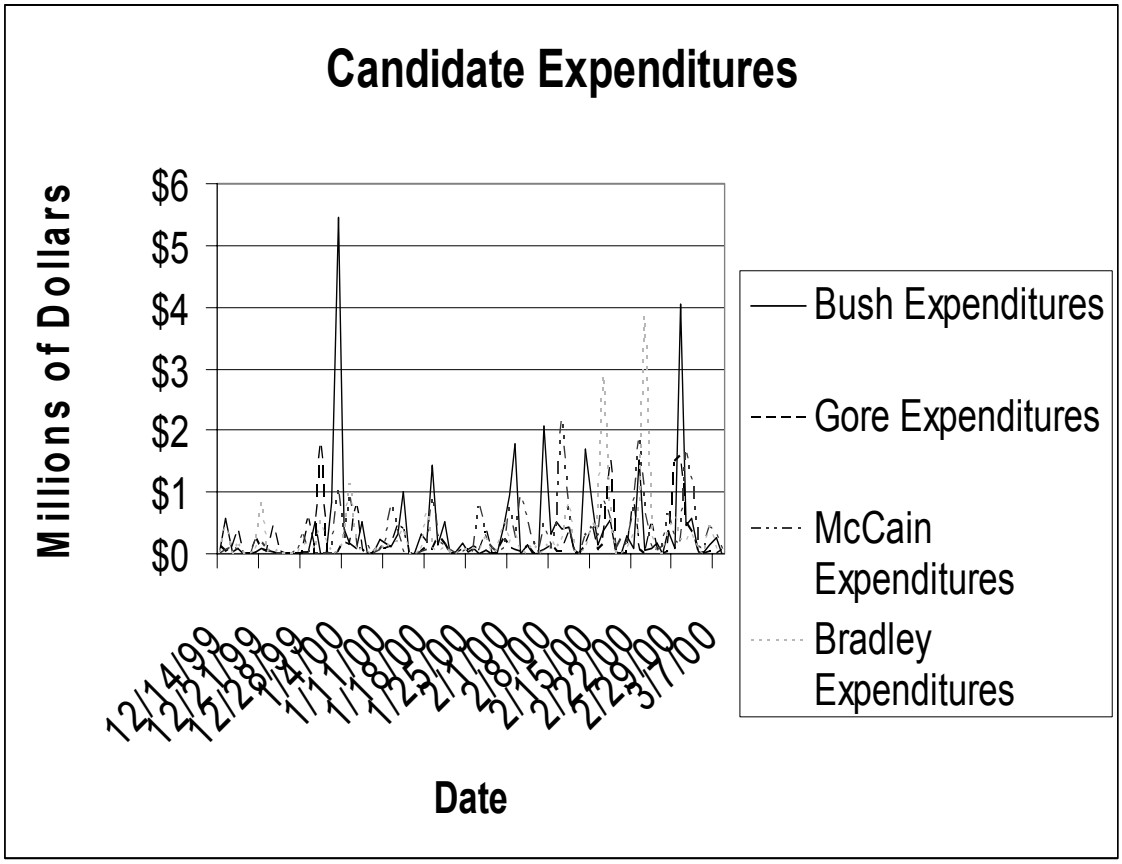

Figure B.1 Candidate Expenditures in Millions of Dollars

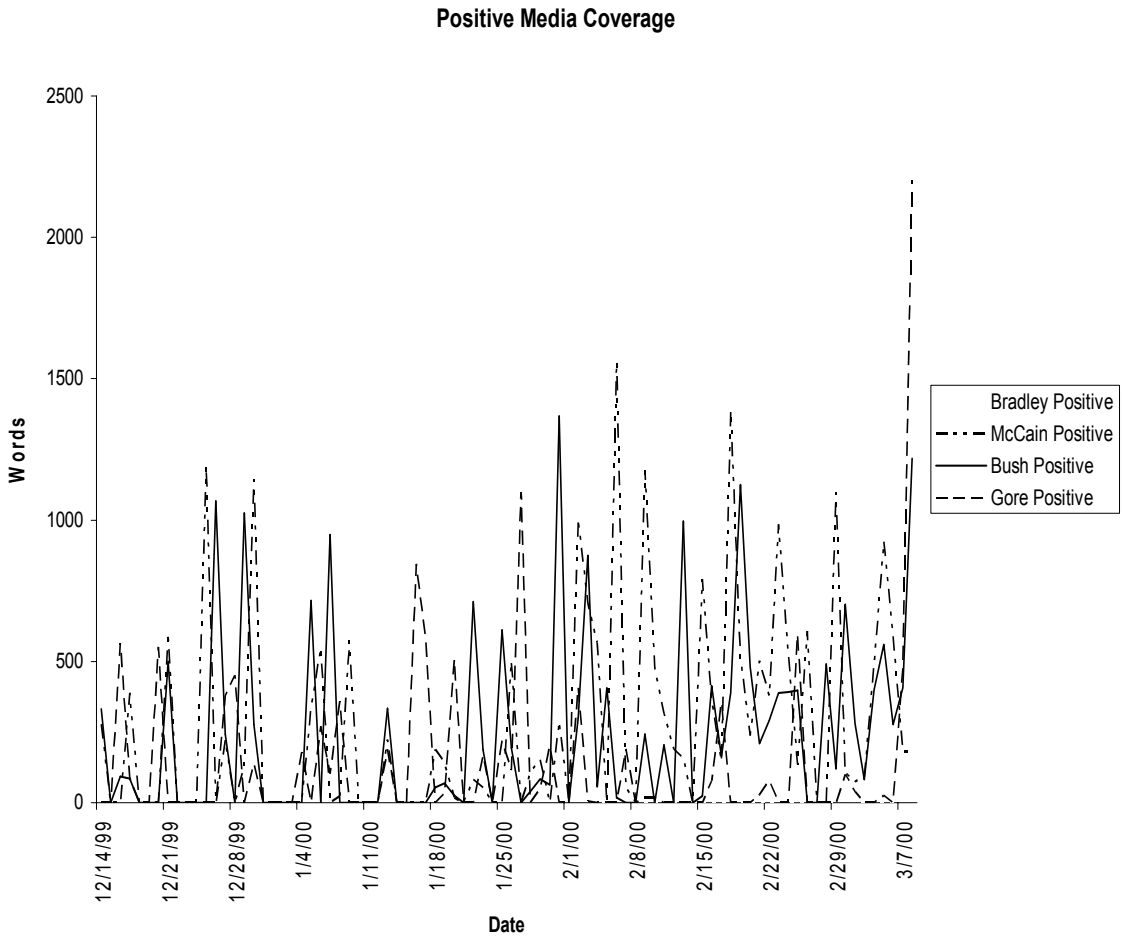

Figure B.2 Positive Media Coverage of the Candidates

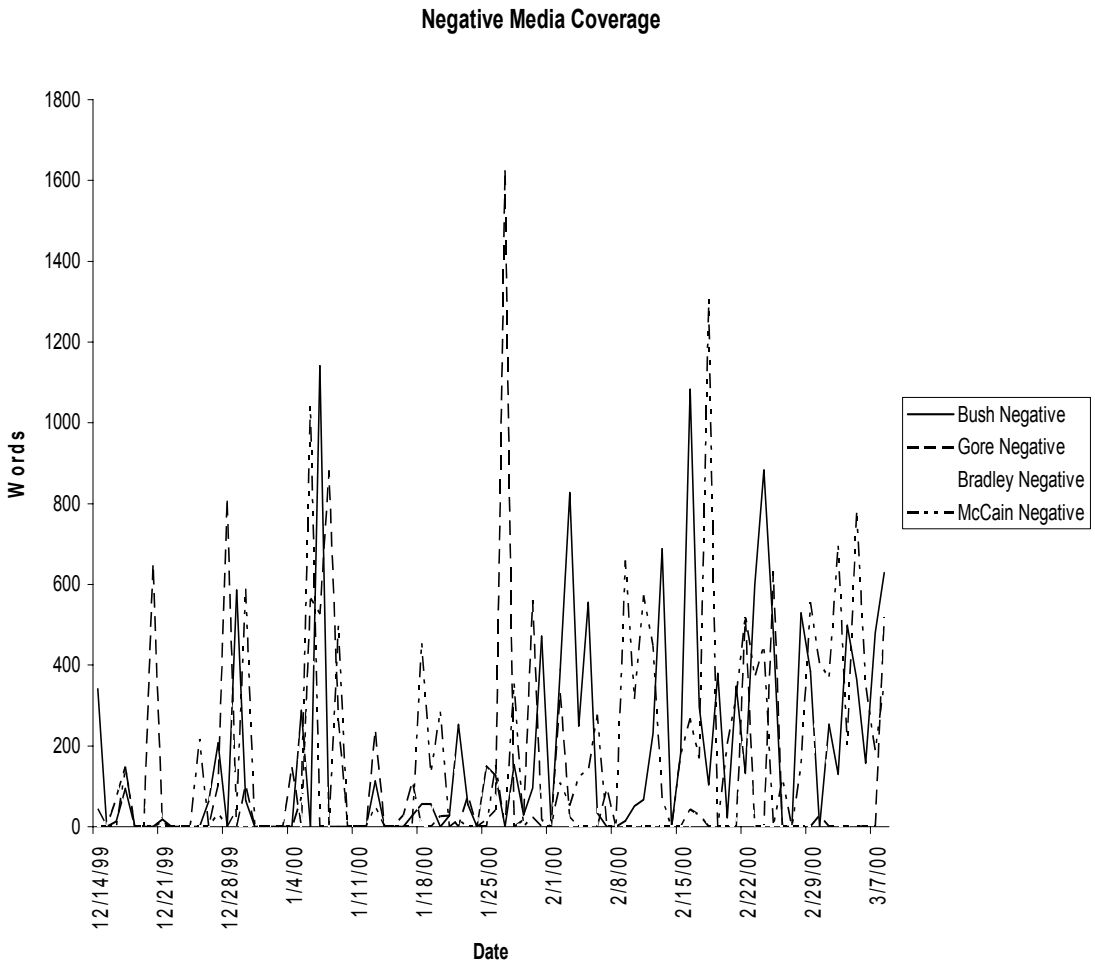

Figure B.3 Negative Media Coverage of the Candidates

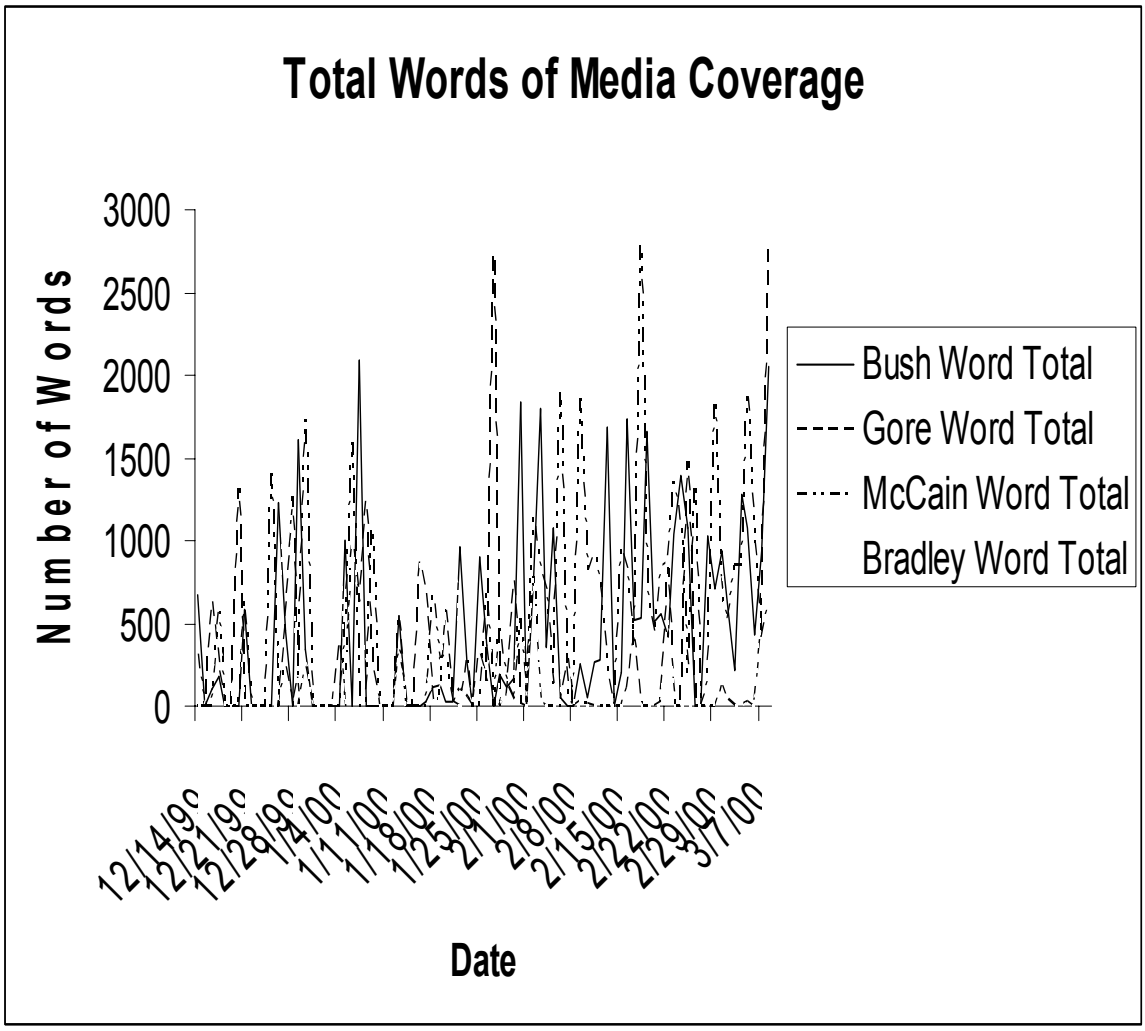

Figure B.4 Total Words of Media Coverage of the Candidates

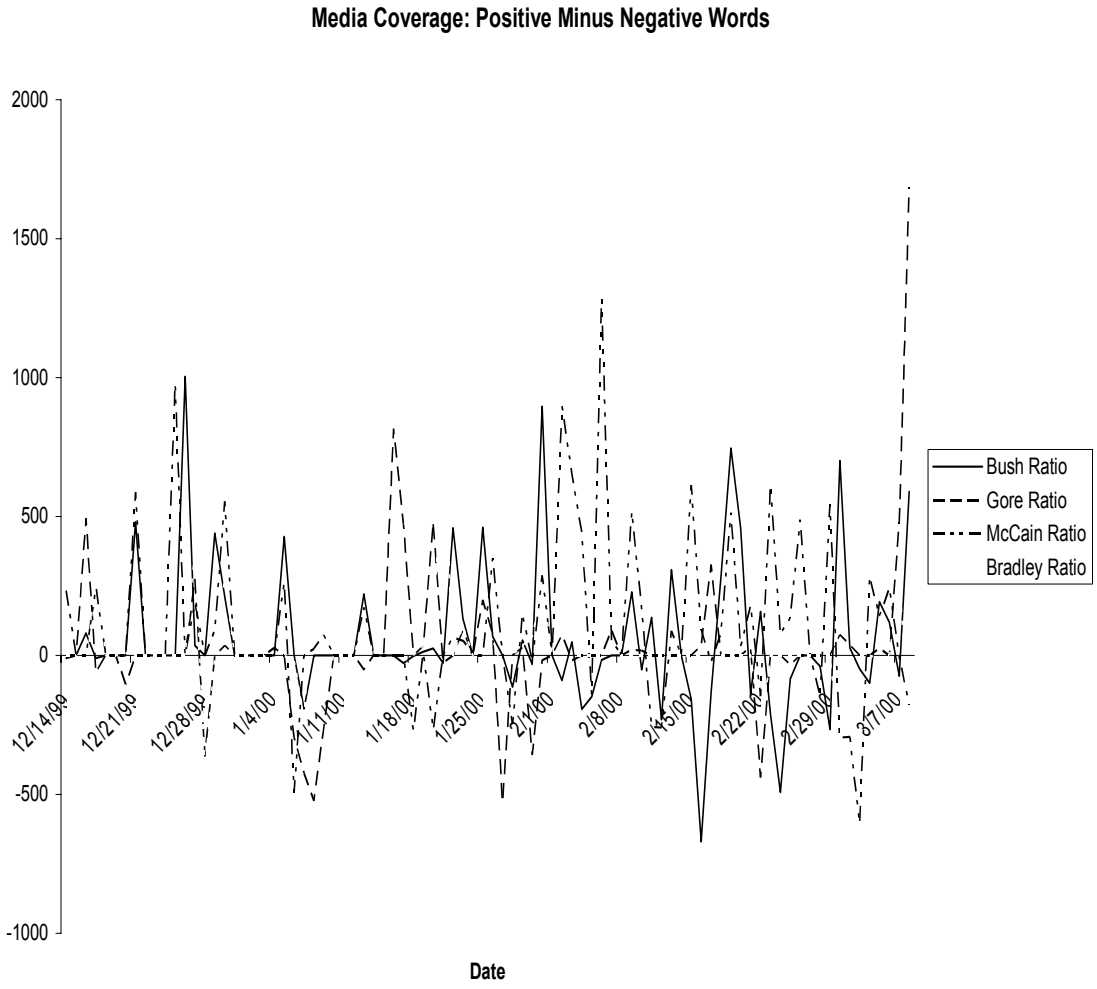

Figure B.5 Positive minus Negative Media Coverage of the Candidates

APPENDIX C

ADDITIONAL RATIONAL EXPECTATIONS MODELS

Each of these models is expected to be meet the standard of weak rational expectations. And that is the finding for each of these models. The findings of chapter six are upheld by these models, so there are no significant changes to the support for the rational electoral expectations by excluding or including these models.

Bush vs. Bradley

Here there are two additional tests for this match-up that are not used in chapter six. The pooled responses are used in the chapter, but the models for the Democratic responses and the Republican responses are left out.

Equation's Dependent Variable	Block of Lagged Coefficients	Joint Significance Level (p-value)
Bush vs. Bradley Electability	Bush vs. Bradley	0.001***
	Bush Coverage (Word Total)	0.723
	Bradley Coverage (Word Total)	0.624
	Bush Expenditures	0.025**
	Bradley Expenditures	0.003***
Bush Coverage (Word Total)	Bush vs. Bradley	0.658
	Bush Coverage (Word Total)	0.000***
	Bradley Coverage (Word Total)	0.318
	Bush Expenditures	0.203
	Bradley Expenditures	0.324
Bradley Coverage (Word Total)	Bush vs. Bradley	0.317
	Bush Coverage (Word Total)	0.149
	Bradley Coverage (Word Total)	0.104
	Bush Expenditures	0.329
	Bradley Expenditures	0.683
Bush Expenditures	Bush vs. Bradley	0.347
	Bush Coverage (Word Total)	0.250
	Bradley Coverage (Word Total)	0.972
	Bush Expenditures	0.751
	Bradley Expenditures	0.873
Bradley Expenditures	Bush vs. Bradley	0.776
	Bush Coverage (Word Total)	0.237
	Bradley Coverage (Word Total)	0.990
	Bush Expenditures	0.834
	Bradley Expenditures	0.748

*** Variable Granger-causes the dependent variable at 99% level of significance.
** Variable Granger-causes the dependent variable at 95% level of significance.
* Variable Granger-causes the dependent variable at 90% level of significance.

Table C.1 Weak Rational Electoral Expectations—Granger Causality Tests of the VAR Intervention Model of Bush vs. Bradley Electability (Republican Responses)[53]

[53] Likelihood ratio tests select 4 lags for this model.

Equation's Dependent Variable	Block of Lagged Coefficients	Joint Significance Level (p-value)
Bush vs. Bradley Electability	Bush vs. Bradley	0.009***
	Bush Coverage (Positive – Negative)	0.937
	Bradley Coverage (Positive – Negative)	0.812
	Bush Expenditures	0.069*
	Bradley Expenditures	0.278
Bush Coverage (Positive – Negative)	Bush vs. Bradley	0.909
	Bush Coverage (Positive – Negative)	0.676
	Bradley Coverage (Positive – Negative)	0.719
	Bush Expenditures	0.321
	Bradley Expenditures	0.991
Bradley Coverage (Positive – Negative)	Bush vs. Bradley	0.460
	Bush Coverage (Positive – Negative)	0.086*
	Bradley Coverage (Positive – Negative)	0.265
	Bush Expenditures	0.580
	Bradley Expenditures	0.815
Bush Expenditures	Bush vs. Bradley	0.218
	Bush Coverage (Positive – Negative)	0.712
	Bradley Coverage (Positive – Negative)	0.629
	Bush Expenditures	0.655
	Bradley Expenditures	0.984
Bradley Expenditures	Bush vs. Bradley	0.075*
	Bush Coverage (Positive – Negative)	0.007***
	Bradley Coverage (Positive – Negative)	0.539
	Bush Expenditures	0.310
	Bradley Expenditures	0.756

*** Variable Granger-causes the dependent variable at 99% level of significance.
** Variable Granger-causes the dependent variable at 95% level of significance.
* Variable Granger-causes the dependent variable at 90% level of significance.

Table C.2 Weak Rational Electoral Expectations—Granger Causality Tests of the VAR Intervention Model of Bush vs. Bradley Electability (Democratic Responses)[54]

[54] Likelihood ratio tests select 1 lag for this model.

Gore vs. McCain

For this match-up, the tests shown in chapter six show both the pooled responses and the Republican responses. Here, the responses for the Democratic model are also shown.

Equation's Dependent Variable	Block of Lagged Coefficients	Joint Significance Level (p-value)
Gore vs. McCain Electability	Gore vs. McCain	0.040**
	Gore Coverage (Positive – Negative)	0.548
	McCain Coverage (Positive – Negative)	0.347
	Gore Expenditures	0.515
	McCain Expenditures	0.020**
	Gore Preference	0.003***
Gore Coverage (Positive – Negative)	Gore vs. McCain	0.313
	Gore Coverage (Positive – Negative)	0.423
	McCain Coverage (Positive – Negative)	0.053*
	Gore Expenditures	0.925
	McCain Expenditures	0.292
	Gore Preference	0.243
McCain Coverage (Positive – Negative)	Gore vs. McCain	0.958
	Gore Coverage (Positive – Negative)	0.853
	McCain Coverage (Positive – Negative)	0.076*
	Gore Expenditures	0.203
	McCain Expenditures	0.835
	Gore Preference	0.227
Gore Expenditures	Gore vs. McCain	0.028**
	Gore Coverage (Positive – Negative)	0.074*
	McCain Coverage (Positive – Negative)	0.981
	Gore Expenditures	0.480
	McCain Expenditures	0.171
	Gore Preference	0.676
McCain Expenditures	Gore vs. McCain	0.459
	Gore Coverage (Positive – Negative)	0.634
	McCain Coverage (Positive – Negative)	0.654
	Gore Expenditures	0.203
	McCain Expenditures	0.000***
	Gore Preference	0.740
Gore Preference	Gore vs. McCain	0.637
	Gore Coverage (Positive – Negative)	0.632
	McCain Coverage (Positive – Negative)	0.731
	Gore Expenditures	0.522
	McCain Expenditures	0.896
	Gore Preference	0.866

*** Variable Granger-causes the dependent variable at 99% level of significance.
** Variable Granger-causes the dependent variable at 95% level of significance.
* Variable Granger-causes the dependent variable at 90% level of significance.

Table C.3 Weak Rational Electoral Expectations—Granger Causality Tests of the VAR Intervention Model of Gore vs. McCain Electability (Democratic Responses)[55]

[55] Likelihood ratio tests select 4 lags for this model.

Republican Viabilities

The final set of models are the viability models for the Republican candidates. The viability variables for the Republicans are different from the Democratic viability, in that there are separate viability series for each Republican candidate. There is no direct comparison between Bush and McCain in the questions asked, but the comparison is implicit, since they were the only two major candidates. They are both expected to be weakly rational, since they feature a well-known candidate (Bush) against a lesser-known candidate (McCain).

Equation's Dependent Variable	Block of Lagged Coefficients	Joint Significance Level (p-value)
Bush Viability Electability	Bush Viability	0.000***
	Bush Positive Coverage	0.031**
	Bush Negative Coverage	0.893
	Bush Expenditures	0.902
Bush Positive Coverage	Bush Viability	0.001***
	Bush Positive Coverage	0.283
	Bush Negative Coverage	0.771
	Bush Expenditures	0.307
Bush Negative Coverage	Bush Viability	0.033**
	Bush Positive Coverage	0.075*
	Bush Negative Coverage	0.252
	Bush Expenditures	0.908
Bush Expenditures	Bush Viability	0.047**
	Bush Positive Coverage	0.739
	Bush Negative Coverage	0.813
	Bush Expenditures	0.603

*** Variable Granger-causes the dependent variable at 99% level of significance.
** Variable Granger-causes the dependent variable at 95% level of significance.
* Variable Granger-causes the dependent variable at 90% level of significance.

Table C.4 Weak Rational Electoral Expectations—Granger Causality Tests of the VAR Intervention Model of Bush Viability[56]

[56] Likelihood ratio tests select 1 lag for this model.

Equation's Dependent Variable	Block of Lagged Coefficients	Joint Significance Level (p-value)
McCain Viability	McCain Viability	0.079*
	McCain Positive Coverage	0.944
	McCain Negative Coverage	0.089*
	McCain Expenditures	0.070*
McCain Positive Coverage	McCain Viability	0.094*
	McCain Positive Coverage	0.000***
	McCain Negative Coverage	0.196
	McCain Expenditures	0.443
McCain Negative Coverage	McCain Viability	0.425
	McCain Positive Coverage	0.000***
	McCain Negative Coverage	0.000***
	McCain Expenditures	0.002***
McCain Expenditures	McCain Viability	0.462
	McCain Positive Coverage	0.975
	McCain Negative Coverage	0.371
	McCain Expenditures	0.000***

*** Variable Granger-causes the dependent variable at 99% level of significance.
** Variable Granger-causes the dependent variable at 95% level of significance.
* Variable Granger-causes the dependent variable at 90% level of significance.

Table C.5 Weak Rational Electoral Expectations—Granger Causality Tests of the VAR Intervention Model of McCain Viability[57]

[57] Likelihood ratio tests select 3 lags for this model.

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