Daily Effects on Presidential Candidate Choice

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Introduction
At 11:00pm Eastern time all three major cable networks, CNN, MSNBC, and FOX, projected Barack Obama to be the 44th President of the United States. Obama’s final vote count was 53.25% of the total two party popular votes. Amid concerns from many people that a black candidate could not be elected to the presidency, all doubt was put to rest on November 4, 2008. The United States of America had made history by electing its first black president.

In this historic 2008 presidential election Barack Obama raised $639 million from approximately 3 million campaign donors, whereas John McCain raised only $360 million from approximately 1 million campaign donors\(^1\). What is perplexing about the 2008 presidential election is that an average of the forecasting models predicted, without taking into account the disparity in the campaigns, that Barack Obama would receive 53.1% of the total two party popular votes. The forecasting models included the state of the economy and the approval of George W. Bush in July of 2008. Was the large advantage in campaign money raised by Obama only able to squeak out 0.15% of the voting population to his advantage over what was predicted?

Despite this very small difference in actual vote results from the forecasted results, we know that campaigns matter for several reasons. First, campaigns are needed to inform voters about who is running and why a candidate is the best person for the job. Second, campaigns are necessary because if one candidate chooses not to campaign, the other candidate will campaign and probably win overwhelmingly. In this sense, campaigns are like an arms race in

\(^1\) Data found here: <http://www.cnn.com/ELECTION/2008/map/fundraising/>.
that when one candidate begins a campaign the other candidate must react and campaign as well. Each candidate, however, knows the other candidate will campaign, so both begin their campaigns simultaneously. Third, campaigns serve to “enlighten” voters about the political and economic context of the election and who they should vote for given that context (Gelman and King, 1993). As Daron Shaw put it, “even forecasters… admit that campaigns are necessary to educate their voters about the external reality upon which their predictions are based.” (2006: 22)

The magnitude of campaign effects are contested in the minimal vs. substantial effects debate. The minimal effects side of the argument argues that campaigns do not have an effect because both campaigns have enough money to compete, enough information to level the playing field, enough experience to balance the amount of strategic thinking, and use tit for tat strategies to cancel out any bounce effects (Shaw, 2006). However, several scholars have found that there are more than minimal effects. Finkel (1993) finds a net movement of 2 – 3%; Erickson and Wlezien (1999) find campaign effects equaling 5%; Campbell (2008) finds an effect of about 4%; Bartels (1993) finds campaigns to have an effect of 2 – 3%. Other authors have found that there are campaign effects that result because not every voter has decided before the campaigns begin (Hillygus and Shields, 2008; Holbrook, 1996). Finally, candidate appearances in states appear to boost the support of the candidate within that state (Shaw, 1999b; Holbrook, 2002).

One question still remains: Why do the national polls vary daily, when presidential election results are so predictable (Gelman and King, 1993)? Gelman and King (1993) refute possible answers to this question such as, measurement error (polls don’t tell us actual results, question wording problems, and non-response bias), campaign effects (gaffes, advertisements, unbalanced campaign spending), and incomplete information about the candidates. Gelman and King (1993) provide a possible answer which they call the “enlightenment hypothesis”. This hypothesis states that voters respond to polls based on their ‘enlightened preferences,’ which is based on the information that they currently have gathered. Voters
during the campaign also change the weights of the fundamental variables, such as the economic condition and political context. By Election Day, voters are fully 'enlightened' and vote how the forecasters have predicted. In this paper, I seek to provide a more straightforward test of this enlightenment hypothesis by looking at the day-to-day fluctuations in the polls over time and what explains these fluctuations.

There are two major influences that might enlighten voters independent of the campaigns themselves. The first is the daily economic conditions. If the economy gets significantly worse, then one candidate might benefit from this over another. The second is the amount of news coverage that the candidates receive. If one candidate is receiving the bulk of news coverage, then that candidate might benefit from the additional exposure. These two major influences may have profound effects on enlightening voters on which presidential candidate to support.

Theory of ‘Candidate Choice’ Effects
It has long been theorized that the economy has a major impact on voting behavior. Both in retrospective and prospective voting, economic conditions, or more importantly what people think of the economy, persuades voters how to vote (Key, 1964; Lewis-Beck, 1988; Lewis-Beck, Jacoby, Norpoth, and Weisberg, 2008). The party that currently resides in the White House is blamed or receives credit for the health of the economy. If the economy is doing well, people may be persuaded to vote for the in-party. If the economy is doing poorly, the in-party may not effectively persuade voters. Many forecasters have shown that actual economic performance is a powerful predictor of the actual vote total on Election Day (Fair, 1978; Lewis-Beck and Rice, 1992; Campbell, 1992; Campbell and Garand 2000; Abramowitz, 2008; Lewis-Beck and Tien, 2008). These forecasters use the economic conditions that are reported in the summer before the campaign season leading up to the November general election. However, the question remains; does the daily changing economic conditions have an effect on voter support throughout the campaign season? Political commentators were
clamoring that as the stock market was declining in October 2008, presidential candidate Barack Obama was being helped by this decline. If the stock market is the way that voters measure the health of the economy, then it is certainly reasonable to believe that as the stock market drops, voters will be more likely to support the out-party candidate. Thus the first hypothesis is:

\[ H_1: \text{As the Stock Market declines the percentage of support for Barack Obama (the out-party candidate) will increase.} \]

The second major influence is the amount of news coverage that each candidate receives. If one candidate receives overwhelming news coverage, then this should at least temporarily increase the amount of support that they receive. However, what is not accounted for is the type of coverage they receive. If a candidate receives overwhelming amounts of negative news coverage, this could lower the candidate’s support. If the news that the candidate receives is generally positive or neutral, this could increase the candidate’s percentage of support. What will be assumed in this paper is that the type of coverage is random. This means that an increase or decrease in the balance of coverage for one candidate is neither an increase nor a decrease in amount of positive or negative coverage. But increased exposure should lead to an increase in support for a couple of reasons. First, voters usually are passive viewers. They only get news that is shown to them. Thus, if one candidate receives more news coverage, then voters, especially undecided voters, will have lopsided information presented to them about that candidate. Voters may be persuaded to vote for the candidate who receives the most attention because it may be seen as an endorsement of that candidate by the media. Second, voters may feel more comfortable voting for the candidate who they have more information about because there is less uncertainty about that candidate (Alvarez, 1997). This would be the revelation of the enlightenment effect and uncertainty hypothesis: More news coverage means more voters are likely to support that candidate.
these two reasons, more news coverage of one candidate may increase the amount of support for that candidate. Thus the second hypothesis is:

\[ H_2: \text{As Barack Obama receives more news coverage compared to John McCain, support for Obama will increase.} \]

The independent variables in these two hypotheses will be termed “daily Stock Market average” and “daily percentage of news coverage”. In order to test these hypotheses, daily data is collected on both these variables and time series analysis is used to empirically analyze their relationship.

**Data**

The dependent variable ‘Obama support’ is measured by a daily tracking poll from July 15 through November 4th taken from a number of national polls. A total of over 300,000 people were sampled during this 110 day period. At least 1,800 people were polled each day. If we used the daily poll results, then we would expect to have a margin of error of around 2.5%. However, this sample error is too high and we could wrongly mistake these errors as campaign effects (Hillygus and Jackman, 2003). To lower our sample error, we can use a daily poll average. We create a polling average by treating each poll as a multinomial distribution with three distinct choices. One category is for Barack Obama supporters, one category is for John McCain supporters, and another category is for undecided or third party supporters. We combine these multinomial distributions using Bayes’ theorem. This is essentially an average of the polls weighted by their respective sample size. Other poll averages incorrectly combine polls into an average and treat each poll with equal weight (RealClearPolitics and CNN). This wrongly gives too much weight to polls with lower sample sizes, which have larger sampling error and are thus more variable. The weighted poll averages also has the advantage of having a margin of error. A six day moving window poll average was then created by combining all
of the polls taken during a six day period. As each day progressed, only those polls within the last six day period were used.

Thus each day’s poll average estimate is just the combination of polls from the previous six days weighted by their sample size. This creates the 6 day moving window poll average. Figure 1 shows the data over the time period from July 15 through November 4th for Barack Obama and John McCain and the percentage of two party support each received.

Figure 1: 6 day moving window poll average: Barack Obama vs. John McCain 2008

To correct for house sampling effects, I will split up the dependent variable into subsamples. One sample will be using the Gallup poll, the second with the Rasmussen poll, and the third combining the Gallup, Rasmussen, and all other national polls.

The first independent variable is the “daily Stock Market average”. The most visible measure of the economic health of the U.S. economy to voters is the Dow Jones Index. Almost every day, the Dow Jones Index is reported on all three major cable news channels. It is also reported on the network news, newspapers, and online news sources. The value of the Dow Jones Index is used by
commentators to report on the stability of the U.S. economy by comparing the change in the value from the previous day and it is used to comment on the overall health of the economy by the assessing the total value. The Dow Jones Index may not be the best measure for an economic analysis, but it allows commentators to relate information to voters in a comprehensible way and helps to facilitate discussions about the health of the U.S. economy. The Index is based on the 30 largest corporations in the U.S. and many people have stock in these companies, which means their outlook about the economy may be reflected in the overall health of this index. The S&P 500, which is based on the 500 largest corporations in the U.S. is where most people’s 401k resides. This means as the S&P 500 changes, this may change people’s outlook on the economy. While the S&P 500 may be a good measure for people’s outlook on the economy, it is not reported as much as the Dow Jones. Also, the S&P 500 follows very closely the movements of the Dow Jones Index. For this reason, the more visible measure, the Dow Jones, is preferred.

The data on the “daily Stock Market average” was taken by recording the daily Dow Jones Index at closing time from July 7th through November 4th. Then a 6 day moving average was created in the same way as the poll average. This yielded a point estimate for the average every day from July 15 through November 4th on the weekdays. For the weekends, the Dow Jones Index at the close of Friday was recorded for both Saturday and Sunday. The value of the Dow Jones over time is shown in Figure 2. The overall trend in the stock market over time looks like it corresponds to Obama’s support (Figure 1) as the theory predicts in hypothesis 1.
The variable for “daily percentage of news coverage” is calculated in the following manner. First, the number of articles that mention Barack Obama and John McCain in major U.S. news and world publications is collected each day from July 7 through November 4th. The number of articles can be found by using LexisNexis, which searches articles from every source they have from the Toronto Star to the Washington Times. Then a six day moving average is calculated by taking the average number of articles for each candidate from the previous six days, which provides us with a point average for each day from July 15 through November 4th. Next, these numbers are turned into percentages by taking Obama’s six day average number of articles divided by the number of articles for both Obama and McCain. The values for this variable for the entire time period are shown in Figure 3.
What is initially surprising is the similarity in the pattern of Obama and McCain’s percentage of support (Figure 1) and the percentage of articles on Obama and McCain (Figure 3). The patterns seem to correspond extremely well with the predictions in hypothesis 2. Barack Obama stays relatively high compared to John McCain in both the poll average and news coverage (albeit a little higher in his news coverage than his poll support). Then during Obama’s Europe trip, Obama gets a spike in news coverage along with a spike in poll support. During the Republican National Convention, John McCain gets an increase in news coverage, which is the only time he has more news coverage than Barack Obama. This is also the only time John McCain has higher poll support than Barack Obama. Finally, the news slowly increases over time until Election Day for Barack Obama, along with his poll support. The relationship is not perfect, but certainly follows a very similar trending pattern.

Finally, a trend variable and three intervention variables are used in the model. The trend variable is necessary to account for the trend in the dependent variable. The three intervention variables are
the major events that took place during the campaign. The first is the Europe trip that Obama took in late July and is coded 1 for the week of the trip and 0 otherwise. The second is the Democratic Party National convention, which is coded 1 for that week and 0 otherwise. Finally, the economic crisis that the news focused on is coded 1 at the start in late September through Election Day and 0 before. These three events are also used because they are the most likely events to create positive news coverage for Obama. Therefore, the model’s independent variable “daily percentage of news coverage” will more likely capture the independent effects of amount of news coverage.

**Results and Discussion**

The Rasmussen and Gallup subsamples were found to be trend stationary, so we can use a simple OLS regression model with several lags of the dependent variable as independent variables and a trend variable. After graphing the partial auto-correlation function, the first and fourth lags of the dependent variables show significant influence on the dependent variable. Therefore, we need to include the first and fourth lags of the dependent variable as independent variables. This type of time series model allows us to easily interpret substantive results of the relationship between the variables. The results of the regression model are reported in Table 1.
Table 1: OLS Time Series Regression Model: Effect of the change in daily news coverage and change in Dow Jones public opinion (Obama vote)

<table>
<thead>
<tr>
<th></th>
<th>Rasmussen Model Coefficient (p-value)</th>
<th>Gallup Model Coefficient (p-value)</th>
<th>All Polls Model Coefficient (p-value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obama Support Lag 1</td>
<td>.538 (.001)</td>
<td>.678 (.001)</td>
<td>.888 (.001)</td>
</tr>
<tr>
<td>Obama Support Lag 4</td>
<td>.112 (.142)</td>
<td>-.078 (.242)</td>
<td>-.137 (.03)</td>
</tr>
<tr>
<td>daily Stock Market average</td>
<td>.001 (.008)</td>
<td>.001 (.104)</td>
<td>.001 (.09)</td>
</tr>
<tr>
<td>daily percentage of news coverage</td>
<td>.097 (.009)</td>
<td>.157 (.004)</td>
<td>.053 (.006)</td>
</tr>
<tr>
<td>trend variable</td>
<td>.001 (.0001)</td>
<td>.001 (.0001)</td>
<td>.001 (.0001)</td>
</tr>
<tr>
<td>Obama’s Europe trip</td>
<td>.005 (.256)</td>
<td>.005 (.398)</td>
<td>.004 (.026)</td>
</tr>
<tr>
<td>Democrat Party Convention</td>
<td>-.001 (.812)</td>
<td>-.003 (.497)</td>
<td>-.001 (.974)</td>
</tr>
<tr>
<td>economic crisis</td>
<td>.006 (.114)</td>
<td>.004 (.432)</td>
<td>.004 (.071)</td>
</tr>
<tr>
<td>constant</td>
<td>.014 (.822)</td>
<td>.009 (.904)</td>
<td>.054 (.135)</td>
</tr>
<tr>
<td>R square</td>
<td>.86</td>
<td>.88</td>
<td>.96</td>
</tr>
</tbody>
</table>

From July 15th to November 4th, an increase in the stock market by 1 point corresponds to a .001% increase in Obama’s percentage of supporters. This result is very surprising given that it completely opposes hypothesis 1. However, in two of the three models, the relationship does not achieve statistical significance at the .05 level. There is really no substantive significance either, since it
takes a great deal of change in the stock market to make any
difference in the amount of support for Obama.

The second variable, “daily percentage of news coverage”,
had a positive relationship with the dependent variable, “Obama
support” thus confirming hypothesis 2. As the amount of news
coverage increased by 1% for Obama, the percentage of support for
Obama increased between .05% and .15%. This is consistent with
the theoretical relationship between the news and Obama’s support.
As Obama received more news coverage, his support in the general
public increased, either because it was seen as an endorsement from
the news media or because they were less uncertain about Obama as
compared to McCain at that time. This is independent of such
events as Obama’s trip to Europe in late July and the Democratic
Party National Convention, where he also received increased news
coverage.

The trend variable was found to be significant, showing that
Obama’s support increased over time after accounting for all other
variables, but the magnitude of this increase is not large. The three
intervention variables; Obama’s Europe trip, the Democratic Party
National Convention, and the economic crisis, all were generally
insignificant.

Conclusion
The results of these time series models show us that two major
influences work to increase or decrease the level of support that a
candidate has during the campaign season, independent of the actual
campaigns themselves. The fluctuations of the economy as seen by
the Dow Jones Index and the amount of news coverage one
candidate receives in relation to the other can help to influence the
amount of support that a candidate receives. These results also
provide another answer to one question that has been asked by
political scientists before: “Why Are American Presidential Election
Campaign Polls so Variable When Votes Are so Predictable”
(Gelman and King, 1993)? The partial answer provided here is that
voters are influenced by the changing economic conditions and
changing news coverage even on the day-to-day progression during
the campaign season. These models also provide support to Alvarez’s (1997) uncertainty hypothesis in the aggregate: the more uncertain voters are about a candidate the less likely they are to support that candidate.

There are several questions this research provokes. First, who are the voters that are changing their minds based on the economic fluctuations and amount of news coverage? Are they primarily undecided voters, independent voters, or weak party identifiers? Second, this research assumed that the amount of news coverage was independent of whether the news was positive or negative about the candidate. Is more news coverage correlated with an increase in negative news coverage? And does controlling for negative versus positive news help us to better understand the fluctuations in the polls throughout the campaign season. Finally, the most provoking question, is why does the increase in the daily stock market value help to increase the out-party candidate’s support (Barack Obama), when all past theories would predict the opposite. If bad economic news is good for the out party in the aggregate, why does a falling stock market hurt the out party?

The answers to these three questions would help us better understand what causes the fluctuations in the polls that we see throughout the campaign season that are independent of the actual campaigns themselves.

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