

METHODS, NOT MADNESS: FORECASTING U.S.
PRESIDENTIAL ELECTIONS

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ABSTRACT

Through my thesis, I discuss the current literature on numerous factors that could affect how voters approach presidential elections including the economy, midterm election outcomes, public perceptions of the candidate, foreign entanglements, and, most interestingly, the personalities of the candidates' spouses. I then lay out my hypotheses as to what and how different variables impact an election outcome in my own theory development. Next, I operationalize these factors to set the parameters and expectations for my study. In the results section, I assess how successful my model was in predicting the election outcome by comparing the results to the past election outcomes and looking for trends. Finally, the results indicate how effective or ineffective these variables are before surmising a conclusive answer to the factors that most affect election results. The concluding discussion further dissects the results of what to expect in 2016 before closing with meaningful implications, limitations, and areas for future research.

Introduction

In 2010, the Democratic Party suffered massive defeats in many national and state level elections in the 2010 midterms. In fact, the Republican Party gained 63 seats in the U.S. House of Representatives, making it the largest seat change since 1948 and the largest for any midterm elections since 1938 (Busch 2011). The U.S. economy was not faring much better than the Democrats' bleak political outlook at the time either, growing marginally in the aftermath of the 2008 recession and featuring some of the highest unemployment rates in recent memory. Despite all this, in 2012, President Barack Obama was re-elected to a second term with a decisive victory over the Republican candidate, Mitt Romney, winning both the popular vote and the Electoral College. Thus, the 2012 election results deviated from what many believed to be the signals of an impending defeat for President Obama. To what might this surprising (to some) result be traced?

With yet another staggering mid-term election behind us and a clearer picture of who will run for office in 2016, it is paramount to begin seeking the most prominent indicators of presidential outcomes, so that new best campaign practices can emerge and candidates can better focus their energies on improving their perceived flaws. Moreover, the American public must realize the importance of the American presidency and how forecasting the outcome of a presidential election could allow the public to more adequately plan for future policy changes. As mentioned earlier, many theories and variables have evolved to predict and explain presidential elections, but they have yet to be compared side-by-side and analyzed for their successes or shortcomings. These theories include, but are not limited to, the current state of the economy, midterm election results, analyses of opinion polls, and newer trends related to the media revolution. To further examine this, I ask: what factors most impact the outcome of

presidential elections and how can they best be utilized to predict who will win the presidency, the incumbent party or the opposition?

In what follows, I discuss the current literature on numerous factors that could affect how voters approach presidential elections. I then lay out my hypotheses as to what and how different variables impact an election outcome in my own theory development. Next, I operationalize these factors in the methodology section to set the parameters and expectations for my study. In the results section, I will assess how successful my model was in predicting the election outcome by comparing the results to the past election outcomes and looking for trends. Finally, the results indicate how effective or ineffective these variables are before surmising a conclusive answer to the factors that most affect election results. The concluding discussion further dissects the results of what to expect in 2016 before closing with meaningful implications, limitations, and areas for future research. As a whole, my research further validates some theories and dismisses others, while some variables still remain inconclusive.

The Economy, Stupid

The economy has been the central focus of many election outcome studies. This is justified simply by the fact that the economy is one of the most direct influences on a person's wellbeing. From a measure of income to whether or not a person is employed, there are several economic indicators currently being used in election outcome studies. Therefore, it is vital to look at the current literature surrounding the economy and its electoral implications.

James Carville, campaign strategist turned media personality, coined the phrase "the economy, stupid" to stress the importance of promoting the economy to aid future President Bill

Clinton's effort to unseat incumbent President George H. W. Bush in the 1992 presidential campaign. The economy became one of the pillars of Clinton's campaign thereafter as a prevailing recession struck the U.S. in 1991. Similarly, President Barack Obama laid out an Economic Recovery Plan that hoped to save or create 2.5 million jobs after the beginning of the "Great Recession" in 2008. Both situations provided Clinton and Obama the necessary political firepower to swing the White House from the incumbent party in their favors. Thus, the economy, especially during election years, is an indicator that must be scrutinized to determine if the presidential outcome is really as simple as what Carville said it was.

First, a large body of work already exists that puts forth the notion that voters respond to national economic performance (Kramer 1971; Markus 1988). Many more papers also argue the national economy is the single most important factor in determining election outcomes (Fair 1978; Lewis-Beck and Stegmaier 2000). Good times keep parties in office, while bad times cast them out. These findings are largely based on the economic voter, who holds the government responsible for economic performance, rewarding or punishing it at the ballot box (Lewis-Beck and Stegmaier 2000). However, not all research paints a picture that simple. W. A. Kerr, for example, examined the correlations between various economic indices with the "conservative" presidential vote, arguing that prosperity increases the conservative vote (Kerr 1944). His research only modestly supported his hypothesis, but Kerr was ahead of the curve in using variables such as the "index of per capita realized national income (adjusted by cost of living)" to draw connections between the economy and voting behavior. Pearson and Meyers followed in line using "general price level" as their measure of overall prosperity and found that the public tends to vote for the continuation of administrations that have been in power during prosperous times and to vote against the incumbent party when depression marks the approach of election

time (Pearson and Myers 1948). Through these sets of research, it is evident that it is impossible to predict elections without analyzing the state of the economy.

Furthermore, a variety of opinions have arisen on the subject, including those of Gerald Kramer and Ray Fair. Although Kramer focused solely on predicting congressional elections, Fair assesses Kramer's model, adjusts it, and posits that economic events have an important effect on the presidential vote. Narrowly, Kramer's results indicate that the growth rate of real per capita income and the inflation rate in the year of the election are important in explaining the congressional vote, with a high growth rate and a low inflation rate helping the congressional candidates of the party that is in control of the presidency at the time of the election and a low growth rate and a high inflation rate helping the congressional candidates of the other party (Kramer 1971). Kramer withholds drawing his conclusions to presidential elections, but Fair points out that personality factors and other non-economic factors cited by Kramer in determining presidential outcomes are far from obvious. Instead, Fair introduces three additional variables to growth rate and inflation rate: good news quarters, incumbency, and duration. In doing so, Fair's predicted vote shares line up almost equally with actual vote shares from past elections. Fair's research provides a simple and general outline of factors affecting the outcome of presidential elections.

Moreover, Alan Abramowitz helped establish the time-for-change model with the underlying assumption that a presidential election is a referendum on the performance of the incumbent president. If this is true, then regardless of whether there is an incumbent in the race, how voters cast their ballots should be strongly influenced by their evaluation of the incumbent president's performance (Abramowitz 2008). One of the leading indicators of presidential vote choice, according to the time-for-change model, is the growth rate of the economy during the

second quarter of the election year. Rational voters are expected to reward the party in power for good economic conditions and punish the party in power for bad economic conditions. In perhaps the most obvious example of trying to cue voters to think retrospectively about his time in office, Ronald Reagan asked voters at the end of the 1980 debate in Cleveland, “Are you better off today than you were four years ago?”

Midterm Letdowns

The next oft-cited predictor of presidential elections outcomes is mid-term election results. Given that they occur midway through a president’s time in office, they can be viewed as a thermometer of the public’s political mood as well as an insightful look at the popularity of the political party in the White House at the time. Unfortunately for the White House, the president’s party almost invariably loses congressional seats, state legislative seats, governorships, and even control of one or both Congressional chambers (Busch 1999). This renders the question of whether or not mid-term elections actually matter if this pattern sustains itself every mid-term year.

When it comes to midterm elections, there are many prominent theories that help explain why the president’s party suffers losses. The first theory is the “coattails theory,” proposed by Bean, that the losses suffered by the president’s party are a result of the decline in voter turnout for midterm elections (Bean 1948). The surge-and-decline theory builds on the coattails theory. According to this theory, a high-stimulus election, an election in which issues, events, or popular candidates may stimulate widespread enthusiasm and interest amongst the electorate, is usually followed by a low-stimulus election, an election in which issues or events do not stimulate

interest and enthusiasm amongst the electorate for the election (Campbell 1960). However, it is the referendum theory years later that opened the door to predicting presidential elections with the preceding mid-term election results. The referendum theory focuses on two additional factors: presidential popularity and, again, national economic performance (Tuftes 1975). However, simply because one theory may rest on presidential popularity does not imply presidential elections rely on mid-term results. There may be a correlation, but not causation due to the fact that generally the party in the White House loses seats, the issues and Congressional members are unique state to state, and, as stated by the surge-and-decline theory, the voter turnout is far less in mid-term elections than in presidential elections.

Additionally, increasing partisan polarization has further implications for midterm elections and forecasting presidential election outcomes. The growing partisanship is resulting in a decrease in the willingness of voters to cross party lines to vote for any candidate from the opposing party including an incumbent (Abramowitz 2012). Thus, in midterm elections, the outcome will depend on which party does a better job of mobilizing its most passionate supporters, whereas in presidential elections, parties can focus more energies on appealing to the voters in battleground states. For example, most recently, Presidential winners George W. Bush in 2004 and President Barack Obama in 2008 and 2012 all focused on turning out their established voter bases in battleground states rather than persuading the diminishing group of swing voters. Michael S. Lewis-Beck and Charles Tien also put forth a structural explanation of house seat changes based upon the president's approval rating and changes in the amount of disposable income of the average voter. Considering that the higher the ratings and changes in disposable income the more positive the seat change is in the incumbent's favor, it could be expected that presidential election voters will follow suit (Lewis-Beck and Tien 2014).

Therefore, forecasting models should utilize midterm election outcomes because they reflect many of the same factors that play into voter decision-making in presidential elections.

Center of the Public Eye

In recent years, the advent of 24/7 news coverage and entering the digital age has brought about new strategies in studying political candidates. Now, information is available at the click of a button, while voters can watch presidential debates in ultra high-definition television. Furthermore, the emerging role of social media is still being analyzed every day. To that end, there is little hard evidence that any of these social media venues actually drove discussion, participation, or outcomes. The bottom line is that social media tools are only tools. They are no replacement for message, motivation or strategy (Metzgar 2009). However, it is important to note that the enhancements in media compound into building the sense of “public awareness” that can ensure an incumbent party’s victory or lead to its demise in the polls.

Although presidents have for years been used to being the center of attention, in the limelight, and on the front pages of newspaper, never before have political gaffes or other misconducts been capable of being circulated so quickly as in the present day. However, all presidents must be adaptable. President Franklin D. Roosevelt took full advantage of the radio with his fireside chats, enamoring him to the American people. President Richard Nixon, on the other hand, never looked comfortable on camera and would sweat during debates at the advent of live television. President Barack Obama figured out the most effective ways of using social media to mobilize young voters and help him win the election. These three examples all helped form “images” of the candidates that can carry over to political triumphs and defeats.

As a result, the American public expects presidential candidates to maintain such a positive image in their campaigns and time in office. Much of one's image can be accredited to one's personality. It is no different for presidents. Sullivan, Aldrich, Borgida, and Rahn argue that candidates are evaluated on three basic dimensions: altruism vs. selfishness, strength of will vs. lack of will power, and trustworthiness vs. untrustworthiness (Sullivan, Aldrich, Borgida, and Rahn 1990). On the other hand, Miller, Wattenberg, and Malunchuk suggest that the responses fall into five categories: competence, integrity, reliability, charisma, and personal attributes (Miller, Wattenberg, and Malunchuk 1986). Through these personality characterizations, voters become more or less likely to elect the candidate, going hand in hand with the image that the candidate creates of him or herself.

Beyond US Borders

Another prominent noneconomic indicator in election forecasting is looking at foreign policy issues and any entanglements that the United States is involved in come election time. The public's response to operations that suffer U.S. military casualties is not automatic but context dependent (Aldrich 2006). Although casualties are always a cost that the public would prefer to avoid, public support in the face of casualties varies in systematic ways.

One such model is the Bread and Peace Model introduced by Douglas A. Hibbs. According to the model, aggregate votes for president are explained by two objectively measured fundamental determinants: the bread, the weighted-average growth of per capita real disposable income, and the peace, the cumulative US military fatalities due to unprovoked, hostile deployments of American armed forces in foreign wars (Hibbs 2012). Presidents inheriting

unprovoked foreign wars from the opposition party are given a one-term grace period before US fatalities begin to depress the following incumbent vote share. Hibb's research shows that the electoral penalties exacted by those wars affect the presidential vote of the party initiating the unprovoked commitment of US forces—the Republicans for Iraq, and the Democrats for Korea, Vietnam, and prolonging the fight against the Taliban in Afghanistan (Hibbs 2008).

Similarly to President Ronald Reagan asking voters to vote retrospectively on the economy, retrospective evaluations of the president on matters of war and peace can also be strongly related to the vote. In fact, economics and foreign policy assessments share characteristics that make them especially appropriate for retrospective evaluations: important and easily judged outcomes, complex and difficult-to-judge policy means toward those outcomes, and great uncertainty (for the voter and expert alike) as to how the policy means connect to the outcomes (Aldrich 2006).

The Vietnam War is a good example of this. Between 1948 and 1972, voters rarely had an opportunity to use their foreign policy views to distinguish between presidential candidates. In 1968, the public could choose between Nixon's vague but firm "I have a plan to end the war" stance and Humphrey's pledge to continue Johnson's policies. By 1969, however, Vietnam had become "Nixon's war." The Democratic Party consequently ran on McGovern's campaign promise to bring American troops home in six months, marking not only formal party opposition to the Vietnam War but also the rise of perceptions in the public that the Democratic Party favored negotiations with the Soviet Union instead of continued containment. Beginning in that year, the public perceived the Democratic Party as favoring peace and as "soft" on defense and Communism. Since this shift in the Democratic Party's foreign policy stance in 1972, voters

have had the opportunity to distinguish between candidates on the basis of their foreign policy views, should they choose to do so (Aldrich 2006).

In a more recent example, James E. Campbell argues that Bush's margin of victory was smaller in 2004 than one would predict based on economic variables. He attributes the gap to the Iraqi War and notes that respondents who believed that the war was not going well voted heavily for Kerry (Campbell 2004). Thus, the impact of foreign policy on electoral outcomes appears to be both potentially substantial and highly contingent on context.

The First Spouse

A lesser studied aspect of election outcomes, but one that could still make a difference in the success of a presidential candidate and his or her time in office is the role of their spouse. From current First Lady Michelle Obama and the preceding Laura Bush to Lady Bird Johnson and Jacqueline Kennedy, the Office of the First Lady has evolved over the years and brought further acclaim to the White House. While historically having higher approval ratings than their husbands, First Ladies are able to pursue their own goals in enacting positive change.

The first way in which potential First Spouses can support their husbands is by aiding in their campaigning and fundraising efforts. They allow the presidential candidate to have someone of nearly equal stature to rally crowds leading up to primaries and encourage support for the candidate. Essentially, this puts another face to the campaign that enables more freedom and breadth in reaching out to voters. Once in office, another way that First Ladies make a difference is by pursuing their own policy objectives. Most recently, First Lady Michelle Obama is undertaking health initiatives to fight childhood obesity. One of Laura Bush's passions was

education, specifically reading, and helped launch the National Book Festival. Even earlier, Lady Bird Johnson was the first President's wife to actively get involved in the legislative process by advocating for the Highway Beautification Act. All of these are examples of projects of the First Lady that can further endear the American public to the presidency. Overall, a good spouse can help manage the president's stress levels throughout, helping him or her be a more productive and successful presidential candidate and president.

Theory Development

Now having looked at the current literature on a variety of topics that affect presidential election results, it is important to lay out my hypotheses and justify why I believe specific factors from each area will most accurately predict the outcomes. At the end of this section, I will also address the challenges for election forecasting that are inherent to all models.

H₁: Positive economic effects will lead to an increase in the incumbent party vote share of the two party majority vote.

Through this study, I analyze six different economic variables: the index of consumer sentiment, disposable personal income per capita average growth rate, GDP per capita growth rate, inflation rate, unemployment rate, and the misery index. The Index of Consumer Sentiment (ICS) seeks to find how consumers view their own financial situation, the short-term general economy, and the long-term general economy. If the consumers are feeling optimistic about the economy and their own financial status as measured by the ICS, then they are more likely to re-

elect the incumbent party because they are more confident in the job that the incumbent party has done in handling the nation's economic prosperity. The ICS is also a variable that has yet to be fully utilized in election forecasting to date, so it could yield meaningful implications. Measuring real disposable personal income (DPI) is typical to many election-forecasting models, but remains an accurate representation of income available per person. Therefore, as a citizen's income increases, the happier they are and will be more likely to vote for the incumbent party. I also wanted to compare DPI to GDP per capita, a more common variable, to see if one had a greater predicting effect than the other. The last three variables, inflation rate, unemployment rate, and the misery index, are all closely related. Rises in inflation can lead to unemployment and, together, these two variables form the misery index. Furthermore, I select the best two, according to their statistical significance, of these six economic indicators in order to capitalize on the economy having the largest effect on voters' decision-making as surmised from the literature presented in the "Economy" section.

H₂: The number of House seats won by the opposing party in the preceding mid-term is inversely related to the incumbent party vote share of the two party majority vote.

In other words, the more House seats the opposing party wins in the preceding midterms, the less likely the incumbent party will be re-elected in the presidential elections. I believe this to be the case because of the referendum model presented earlier that claims midterms act as a pseudo-feelings thermometer for the current president in office. Given a scenario where the American people vote overwhelmingly in favor of the opposition, it is likely that they want to see change in in the Capital. Further, the more opposing House members that get elected, the

more difficult it will be for the president to accomplish many of his objectives as he or she will have to maneuver through added gridlock in Congress.

H₃: Incumbent presidential candidates who have more of the “It factor” will be more likely to receive the incumbent party vote share of the two party majority vote.

This variable is correlated to the public awareness that a charismatic and trustworthy candidate creates. The candidate with the more positive image can more easily endear him or herself to the American people leading to more votes on Election Day. The “It factor” is more clearly defined in the subsequent “Methodology” section of the paper.

H₄: A higher number of battle deaths within the previous year leading up to an election leads to a decrease in the incumbent party vote share of the two party majority vote, and vice versa.

This is due to the retrospective voter. As a whole, casualties incurred as the direct result of hostile action, sustained in combat or relating thereto, or sustained going to or returning a combat mission do not bode well with the American public leading up to an election. There are, obviously, justified deployments of troops, but the reality of Americans dying fighting abroad hinders the incumbent party’s chances of being re-elected, especially if the conflict or war is not going well or looks like to could drag on. I also test this concept with a dummy variable for whether America is at war or not.

H₅: Presidential candidates with extroverted spouses are more likely to win a higher incumbent party vote share of the two party majority vote than candidates with ambi- or introverted spouses.

The reasoning here lies in extroverts' advantage in winning others over and meeting many people, skills that are of benefit on the campaign trail as well as in office to promote their ideas. This variable will be separated into four dummy variables, two for the incumbent party's candidate's spouse and two for the challenging party's candidate's spouse, as explained more in-depth in the "Methodology" section.

However, in spite of all these hypotheses, there will always remain several opinions and challenges in perfectly predicting election outcomes using models. I selected the economy, midterm election results, an "it factor" comprised of personal characteristics and establishment of a strong image, foreign policy issues, and the social inclination of candidate's spouses as my model's fundamentals, but other fundamentals also exist. The predictor variables used to quantify these fundamentals vary across models, as well. Additional details in operationalizing the variables add to the diverse array of models and forecasts. The challenges for election forecasting include a limited number of predictor variables available for forecasting and the number of these that have been available long enough so that their typical impact on the vote can be assessed is even more limited (Campbell 2012). Unanticipated campaign effects also arise every election cycle as each campaign has its own idiosyncrasies. Other difficulties include determining how close is close enough to justify whether or not a mode is successful, the final vote coming down to the Electoral College rather than the ultimate popular vote, and the challenges of accounting for election-specific factors that rely on surveys and sample sizes like

the ICS. These difficulties afflict all forecasting theories because theories strive to be as close to the real results as possible but even if they correctly predict the incumbent party vote outcome, it may not imply winning the presidency because the electoral college votes trumps the popular vote, as Al Gore was a victim to in 2000. Sampling problems also lead to larger margins of error in the forecasting model.

With all that being said, I will consider my model successful if it is within 2.5% mean absolute error from the incumbent party vote share of the two party majority vote. My goal is that the model will be credible, have a long and strong track record over past elections, and be consistent. Another hope is accurately predicting future elections, including the upcoming 2016 presidential election with a reasonable amount of certainty.

Methodology

To summarize up to this point and be clear, my most robust possible forecasting model is:

$$\text{Incumbent Party Vote} = (\text{Economic Variable \#1}) + (\text{Economic Variable \#2}) + (\text{\# of House seats lost}) + (\text{It Factor}) + (\text{\# of battle deaths}) + (\text{E Spouse of Incumbent}) + (\text{I Spouse of Incumbent}) + (\text{E Spouse of Challenger}) + (\text{I Spouse of Challenger}) + e$$

The dependent variable is the incumbent party vote share of the two party majority vote, meaning the percentage of votes won by the incumbent party in power, limiting any influence by an independent or third party candidate as well. I elected to use this as my dependent variable because it is convenient, easy to code, and allows a more easily interpretable statistical technique

in my linear analysis.

The University of Michigan publishes the first independent variable of the Index of Consumer Sentiment (ICS) monthly dating back to 1952. ICS clearly depicts near-time consumer attitudes on the business climate, personal finance, and spending, so that I can easily update my model with the most recent data. Federal Reserve Economic Data (FRED) is a database maintained by the Federal Reserve Bank of St. Louis where I can access the United States real disposable personal income (DPI), which is the amount of money that households have available for spending and saving after income taxes have been accounted for, equal to personal income minus personal income taxes payments. FRED also releases the GDP per capita in the United States monthly, allowing me to calculate the growth rate over a president's previous four years in office. The Bureau of Labor Statistics publishes all the inflation rate, unemployment rate, and misery index.

As the 2014 midterm elections have most recently come to pass, I am able to use the results to record the number of Democrat seats lost in the House of Representatives to the Republican majority. Furthermore, the midterm election variable is decipherable from the midterm election results of every past midterm election cycle. To operationalize the "It Factor," I rely on the American National Election Studies (ANES). I begin by using the average feelings towards presidential candidates because it was the first evaluation of the presidential candidates metric to be used in 1952. Then, in 1968, the ANES introduced the average feeling thermometer, which measures respondent's feelings towards a candidate in general. Thus, this sort of favorability measurement encompasses the popularity of presidential candidates without looking directly at approval ratings and reflects how well the candidates did or did not create a positive image for themselves. All the while, the "It Factor" can represent how charismatic the leader is

and his or her ability to persuade the American public to elect them for the first time or re-elect them as an incumbent.

The number of battle deaths is equal to the cumulative number of American military fatalities per millions of US population in Korea, Vietnam, Iraq, and Afghanistan during the year leading up to the 1952, 1964, 1968, 1976, 2004, and 2008 elections, as well as any casualties recorded leading up to the 2016 election. I am deciding to narrow it down to the year leading up to the election because this is when I believe the voters make their decisions, using their recent memory of the war and critically analyzing how well, or not well, the war is going leading up to the election. Moreover, the other election years' statistics not mentioned of casualties is not significant or high enough to have an impact on the election, and so those years will be given a value of 0. If the results do not yield significant effects from the direct increase or decrease in battle deaths, I will opt to use a wartime dummy variable in its place with a code of 1 for the years mentioned earlier. Overall, these statistics will be taken from the United States Department of Defense.

Most importantly, as the newest variable put forth by my research, the extroverted or introverted spouses will be four separate dummy variables, two for each candidate. This means that spouses can fall into one of three categories, Extroverted (1,0), Introverted (0,1), or Ambiverted (0,0) if their personality falls in between, based off of my own research in reading biographies and other sources on every First Lady and challenging spouse to date. This way, the model will be able to showcase the added boost to the incumbent party's vote share for candidates who have extroverted spouses by their side, according to my hypothesis.

These themes can be found in this discussion of the First Ladies and their opposing spouses. In 1952, the incumbent party candidate, Adlai Stevenson, did not have a wife as he had

a divorce in 1949, leading to a spousal candidate coding of “0,1” like an introverted spouse would be coded as his chances of winning were arguably hurt by not having a spouse. On the other hand, Eisenhower’s wife who became First Lady from 1952-1960 was noted for her appearance. “Mamie Eisenhower's bangs and sparkling blue eyes were as much trademarks of an administration as the President's famous grin. Her outgoing manner, her feminine love of pretty clothes and jewelry, and her obvious pride in husband and home made her a very popular First Lady (Black 2013).” This made Mamie Eisenhower a clear (1,0) extrovert. Richard Nixon was the incumbent Republican Party’s candidate in 1960, but Mr. and Mrs. John F. Kennedy defeated Nixon, and his wife Pat. Despite this, both Pat Nixon and Jackie Kennedy became popular first ladies in their time. While Kennedy became renowned for her public, put-together image, poise, and confidence, she was more-ambiverted (coded “0,0”) compared to Pat Nixon (coded “1,0”) who was a tireless campaigner when he ran unsuccessfully for President in 1960, and she was at his side when he ran again in 1968--and won (Black 2013). The election of 1964 also featured contrasting spousal personalities as Lady Bird Johnson “traveled 35,000 miles, made 16 stops in 11 states and appeared with her husband at an additional 150 events (Holley 2007).” The Republican candidate’s spouse, Barry Goldwater’s wife, Margaret Goldwater preferred to remain an “essentially private person, although her husband was in public life for most of their marriage. She generally avoided press conferences and interviews, television appearances and campaign speeches, even when he ran for president (Barnes 1985).” Thus, Lady Bird Johnson was coded as an extrovert and Margaret Goldwater an introvert. In 1968, Hubert Humphrey’s wife, Muriel Humphrey, also struggled and was coded as an introvert. “Because of her shyness she had to work at the roles that came to her (Molotsky 1998).” This could have contributed to the Humphrey’s loss to the Nixon family. The Nixon’s faced two formidable opponents in 1972,

George and Eleanor McGovern, another extrovert. Eleanor herself “broke ground with solo campaigning. They had such confidence in her ability to articulate an issue they just sent her out campaigning. That was huge in '72. It was unprecedented (Stewart 2007).” This showed a major shift in the role of the spouse in campaigning and emphasized the need for socially driven spouses to support the presidential candidate tangibly and emotionally.

The 1976 Republican nomination race featured two prominent spouses, Betty Ford and Nancy Reagan, both future First Ladies. The race even became known as “the battle of the queens.” The Ford Family defeated Jimmy and Rosalynn Carter in 1976, but in 1980, Rosalynn’s committed campaigning took her to 41 states by herself (Black 2013). Each of these spouses was coded as extroverts accordingly. Walter Mondale’s wife, Joan, became known as “Joan of Art” for her passion for the arts as Second Lady of the United States and equally supported her husband’s presidential campaign, but did not have the same spark as Nancy Reagan and other more extroverted spouses. As a result, she is coded as an ambivert, succeeded by Barbara Bush, Kitty Dukakis, and Hillary Clinton. Barbara Bush especially grew into “a seasoned campaigner and a popular speaker,” but it was not her natural state when George H.W. Bush first declared his candidacy for the Republican nomination in 1980, although she did not become First Lady until 1988 (Barbra Bush Biography). Dukakis struggled with alcoholism, prescription medication, and the pressures of political office, which somewhat limited her influence as a candidate's spouse (Haberkorn 2015). Even though her husband, Bill, praised Hillary Rodham Clinton in 1996 when he said the nation would “get two for the price of one,” her natural tendencies also lend themselves towards being an ambivert (Black 2013). In a similar mold, Elizabeth Dole became one of the most successful women in Washington D.C. and ran for the Republican nominee herself in 2000, but still came across as more of an extrovert during her Congressional and short-lived

presidential campaigns (Dole 1996). Also in 2000, Tipper Gore, wife to Al Gore, was well-received in the public eye, campaigned for her husband, and seemed more comfortable in limelight than husband, placing her on the ambivert, nearly extrovert, side of things (Davey 2000). Laura Bush took after her mother's personality, but she also had one shining moment when she gave the keynote speech at the 2000 Republican National Convention (Reeves 2000). Teresa Heinz, married to John Kerry, was decently involved in her husband's presidential run, but did not show the stand-out personality traits of an extrovert, and so she was also coded as an ambivert. Cindy McCain, in 2008, "preferred to take a back seat" but still supported her husband, John, from afar (Kantor 2008). Her disinclination to being the center of attention led her to be coded as an introvert. Bringing in the most recent years, Michelle Obama is the prototypical extrovert, while Bill Clinton enjoys his turn in supporting Hillary to the fullest of his extroverted abilities (Michelle Obama Biography). Finally, on the Republican side, Ann Romney put herself out there, while likely Republican nominee's, Donald Trump's, spouse, Melania Trump, has been described as having "no personality" nor input in their relationship (Bennett 2015). In total, I coded 11 extroverts, 5 introverts, and 8 ambiverts. It is important to note each and every spouse played a unique role in their partner's presidential campaigns, but I argue that some had a greater, more positive, impact in helping them get elected than others whose personalities are more introverted.

Expected Results

As displayed in the first ladies' timeline, in order to frame and run the tests effectively, all data used will be from the presidential election years of 1952 through 2012. The post-World

War II elections are most appropriate for this study as public opinion data first started to become available around this time and the reshaping of American politics to what it most closely resembles today with the establishment of the major two party system got underway. In analyzing the data, I will be using the software program, EViews, to aggregate the inputs of my model easily and run standard linear regressions to examine the data and relationship in detail. It will not be overly time-intensive as soon as all the information is gathered and I am able to use the same model across past elections. With these advantages, creating the model above proves to be the best method to test my hypotheses and compare the results to past elections as well as make a final prediction for the outcome of the 2016 presidential election.

Through my research and application of my model, I expect to accurately describe past election results and offer a prediction of the 2016 presidential election with low margins of error. If the model is successful, then the newly put forth social inclinations of the First Spouse can be further studied and refined to improve the model. Additionally, the reapplication of factors like ICS and DPI alongside foreign policy and midterm indicators would underscore the numerous factors that go into presidential elections, but sift through the less important factors, so that candidates and campaign managers can focus their efforts on the topics that will pay them the largest dividends come Election Day. The model can be related back to the theoretical literature presented earlier by reinforcing some previously held beliefs and offering another point of view on debated factors, such as the impact of midterm election results. Another implication could be broadening Americans' sense of the political climate and allow for the planning of future policy changes contingent on the election results.

Results

To begin analyzing my results, I started building my model from the most important variables, the economic ones. First, I ran a covariance analysis using correlation coefficients to determine how closely related each of the variables were to one another.

| | BATL | DPI | ICS | GDP | INF | ITF | MID | MSRY | UNEM |
|------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| BATL | 1.000000 | 0.074197 | 0.122011 | -0.015823 | 0.191809 | 0.154235 | 0.128234 | 0.152828 | 0.103826 |
| DPI | 0.074197 | 1.000000 | 0.532554 | 0.803098 | -0.087821 | 0.170425 | -0.440419 | -0.318196 | -0.588534 |
| ICS | 0.122011 | 0.532554 | 1.000000 | 0.486349 | -0.387643 | 0.456084 | -0.264519 | -0.497818 | -0.495202 |
| GDP | -0.015823 | 0.803098 | 0.486349 | 1.000000 | 0.055899 | -0.002557 | -0.277686 | -0.199640 | -0.631090 |
| INF | 0.191809 | -0.087821 | -0.387643 | 0.055899 | 1.000000 | -0.339947 | -0.056994 | 0.897424 | 0.344151 |
| ITF | 0.154235 | 0.170425 | 0.456084 | -0.002557 | -0.339947 | 1.000000 | -0.064766 | -0.380862 | -0.230254 |
| MID | 0.128234 | -0.440419 | -0.264519 | -0.277686 | -0.056994 | -0.064766 | 1.000000 | 0.041433 | 0.218455 |
| MSRY | 0.152828 | -0.318196 | -0.497818 | -0.199640 | 0.897424 | -0.380862 | 0.041433 | 1.000000 | 0.710105 |
| UNEM | 0.103826 | -0.588534 | -0.495202 | -0.631090 | 0.344151 | -0.230254 | 0.218455 | 0.710105 | 1.000000 |

I found that the ICS, DPI, and GDP per capita could be grouped together, and inflation (INF), unemployment (UNEM), and the misery index (MSRY) could be grouped together because these variables had higher correlation coefficients to one another. As a result, I ran my first regressions to see which pairing of one variable from each group yielded the most statistically significant impact on the two-party vote share. The best predicting variables turned out to be the DPI per capita growth rate and the inflation rate, as shown below.

Dependent Variable: VOTE
 Method: Least Squares
 Date: 03/04/16 Time: 19:33
 Sample: 1 16
 Included observations: 16

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|----------|
| C | 48.64342 | 3.228641 | 15.06622 | 0.0000 |
| DPI | 2.626258 | 1.088882 | 2.411885 | 0.0314 |
| INF | -0.629756 | 0.446874 | -1.409248 | 0.1822 |
| R-squared | 0.394376 | Mean dependent var | | 52.04250 |
| Adjusted R-squared | 0.301203 | S.D. dependent var | | 5.614117 |
| S.E. of regression | 4.693070 | Akaike info criterion | | 6.097411 |
| Sum squared resid | 286.3237 | Schwarz criterion | | 6.242272 |
| Log likelihood | -45.77929 | Hannan-Quinn criter. | | 6.104830 |
| F-statistic | 4.232731 | Durbin-Watson stat | | 2.376932 |
| Prob(F-statistic) | 0.038399 | | | |

This first regression revealed DPI has a positive effect on the incumbent party's two-party vote-share with a strong degree of confidence, over the 95% confidence level. With a coefficient of 2.63, for every one-point increase in DPI, the incumbent party candidate earned 2.63 more percentage points of the two-party majority vote-share. The inflation rate also had negative impact as a one basis point increase in the inflation rate would lead to a .63 percentage point loss in the vote-share, although this variable was not significant at the 95% confidence level. However, both coefficients do support my first hypothesis that economic effects and vote-share are directly proportional. The adjusted r-squared further indicates these variables account for 0.3, or 30%, of the variation in votes, leaving room for my other variables to account for.

Subsequently, I could now build off of the economic variables to add my political variables to the model, midterm results and the wartime dummy variable (which ended up being more significant than using the relative change in battle deaths). This regression's output is also shown here.

Dependent Variable: VOTE
 Method: Least Squares
 Date: 03/04/16 Time: 20:12
 Sample: 1 16
 Included observations: 16

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|----------|
| C | 50.34183 | 4.066748 | 12.37889 | 0.0000 |
| DPI | 2.940504 | 1.105550 | 2.659766 | 0.0222 |
| INF | -0.756228 | 0.411631 | -1.837151 | 0.0933 |
| BATLD | -4.963980 | 2.265388 | -2.191227 | 0.0509 |
| MID | -0.002238 | 0.056642 | -0.039505 | 0.9692 |
| R-squared | 0.580196 | Mean dependent var | | 52.04250 |
| Adjusted R-squared | 0.427540 | S.D. dependent var | | 5.614117 |
| S.E. of regression | 4.247703 | Akaike info criterion | | 5.980940 |
| Sum squared resid | 198.4728 | Schwarz criterion | | 6.222374 |
| Log likelihood | -42.84752 | Hannan-Quinn criter. | | 5.993304 |
| F-statistic | 3.800673 | Durbin-Watson stat | | 2.480001 |
| Prob(F-statistic) | 0.035406 | | | |

The addition of the wartime dummy variable (BATLD) and midterm election results (MID) further advanced my hypotheses that battle deaths and midterm election results are inversely related to the two-party majority vote-share. The coefficient for the wartime dummy variable equaled -4.96. This means that, at the 95% confidence level, if the U.S. is engaged in a foreign war, the incumbent party candidate will earn 4.96 percentage points of the two-party vote less than the two-party vote if they country was not engaged in war. The midterm election results had a statistically insignificant impact on my model, and so it can be dismissed as having little to no impact on presidential elections and removed from future models. The addition of these variables also raised the adjusted R-squared to 0.42, meaning that the variation of these variables explains roughly 42% of the variation in the two-party majority vote-share.

Next, I added in the candidates' personal traits, their "it factors" (ITF) and the effect of their partners (EXT and INT) and removed the MID variable. Its results are as follows:

Dependent Variable: VOTE
 Method: Least Squares
 Date: 03/04/16 Time: 20:29
 Sample: 1 16
 Included observations: 16

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|----------|
| C | 46.08642 | 5.817162 | 7.922491 | 0.0000 |
| DPI | 2.804735 | 0.844750 | 3.320196 | 0.0089 |
| INF | -0.695339 | 0.400076 | -1.738019 | 0.1162 |
| BATLD | -0.327227 | 2.562847 | -0.127681 | 0.9012 |
| ITF | 2.978728 | 8.130528 | 0.366363 | 0.7226 |
| EXT | 3.074127 | 2.481533 | 1.238802 | 0.2468 |
| INT | -4.945727 | 2.927866 | -1.689192 | 0.1254 |
| R-squared | 0.772929 | Mean dependent var | | 52.04250 |
| Adjusted R-squared | 0.621549 | S.D. dependent var | | 5.614117 |
| S.E. of regression | 3.453715 | Akaike info criterion | | 5.616414 |
| Sum squared resid | 107.3534 | Schwarz criterion | | 5.954422 |
| Log likelihood | -37.93131 | Hannan-Quinn criter. | | 5.633723 |
| F-statistic | 5.105868 | Durbin-Watson stat | | 2.629953 |
| Prob(F-statistic) | 0.015039 | | | |

The signs remained consistent for DPI, INF, and BATLF, which is good, but the wartime dummy variable did not remain statistically significant given the new interactions with ITF, EXT and INT. The ITF coefficient equaled 2.98. So, if the average feelings towards the candidate increased by 1%, then the incumbent party's vote-share would increase on average by 2.98 percentage points. This coefficient also exhibits the size and direction I hypothesized as people are more inclined to vote for candidates they find warming. However, this coefficient is not statistically significant either with a small t-statistic of 0.36 and a p-value of 0.72. This means that we cannot be confident that an increase of 2.98 percentage points is an accurate representation of what would happen if the average feelings towards the candidate increased by 1%. The variables for the extro- and introversion of the incumbent party candidate's spouse also exhibit the signs I expected in my hypotheses, extroverts helping the cause and introverts hurting it. Despite this, only INT approaches the 90% confidence level to establish the variable as one

that is truly representative of the situation. Yet, the adjusted r-squared continued to climb to 0.62, showing that more and more of the vote-share is being explained by more factors.

Lastly, to see if there is an equal effect of the challenger's spouse on the presidential race, I added the extroversion, introversion, or ambiversion variables of the newcomer's spouse to my model. Its results can be seen below:

Dependent Variable: VOTE
Method: Least Squares
Date: 03/04/16 Time: 21:28
Sample: 1 16
Included observations: 16

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|--------|
| C | 43.00077 | 7.931694 | 5.421385 | 0.0006 |
| DPI | 2.624993 | 0.879338 | 2.985192 | 0.0175 |
| INF | -0.676661 | 0.414756 | -1.631465 | 0.1414 |
| ITF | 8.006366 | 12.06121 | 0.663811 | 0.5255 |
| EXT | 1.285735 | 3.671425 | 0.350201 | 0.7352 |
| INT | -5.559675 | 2.887032 | -1.925740 | 0.0903 |
| EXTC | 2.144803 | 2.938411 | 0.729919 | 0.4863 |
| INTC | 0.886205 | 3.499711 | 0.253222 | 0.8065 |
| R-squared | 0.787533 | Mean dependent var | 52.04250 | |
| Adjusted R-squared | 0.601625 | S.D. dependent var | 5.614117 | |
| S.E. of regression | 3.543461 | Akaike info criterion | 5.674938 | |
| Sum squared resid | 100.4489 | Schwarz criterion | 6.061232 | |
| Log likelihood | -37.39950 | Hannan-Quinn criter. | 5.694719 | |
| F-statistic | 4.236135 | Durbin-Watson stat | 2.216262 | |
| Prob(F-statistic) | 0.030107 | | | |

It turns out there is an effect caused by the personality of the challenger's partner, but it is not significant enough to accept confidently as indicated by their high p-values. If all variables were to be put together, despite their inefficiencies, the model would look like this:

Dependent Variable: VOTE
 Method: Least Squares
 Date: 03/04/16 Time: 21:55
 Sample: 1 16
 Included observations: 16

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|----------|
| C | 41.98425 | 7.767302 | 5.405255 | 0.0017 |
| DPI | 0.646248 | 1.742107 | 0.370958 | 0.7234 |
| INF | -1.375649 | 0.609804 | -2.255889 | 0.0649 |
| BATL | 0.001715 | 0.000960 | 1.786692 | 0.1242 |
| MID | -0.165916 | 0.132486 | -1.252324 | 0.2571 |
| ITF | 20.80383 | 13.23733 | 1.571603 | 0.1671 |
| EXT | -0.305520 | 3.504447 | -0.087181 | 0.9334 |
| INT | 0.486896 | 4.711256 | 0.103347 | 0.9211 |
| EXTC | 11.47918 | 6.609036 | 1.736891 | 0.1331 |
| INTC | -1.683719 | 3.839927 | -0.438477 | 0.6764 |
| R-squared | 0.864492 | Mean dependent var | | 52.04250 |
| Adjusted R-squared | 0.661229 | S.D. dependent var | | 5.614117 |
| S.E. of regression | 3.267643 | Akaike info criterion | | 5.475186 |
| Sum squared resid | 64.06496 | Schwarz criterion | | 5.958054 |
| Log likelihood | -33.80149 | Hannan-Quinn criter. | | 5.499913 |
| F-statistic | 4.253076 | Durbin-Watson stat | | 2.340305 |
| Prob(F-statistic) | 0.046022 | | | |

This does begin to show the limitations of presidential elections forecasting, which will be discussed more in-depth later, but also adds to the thinking that there are real effects from these variables when taken alone, although in reality not all these factors can be controlled.

Therefore, it is essential I put forth my best model and briefly discuss it.

Dependent Variable: VOTE
 Method: Least Squares
 Date: 03/04/16 Time: 20:52
 Sample: 1 16
 Included observations: 16

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|----------|
| C | 48.11998 | 2.896899 | 16.61086 | 0.0000 |
| DPI | 2.774019 | 0.891723 | 3.110851 | 0.0144 |
| INF | -0.817859 | 0.372628 | -2.194839 | 0.0595 |
| BATLD | -0.502508 | 2.575173 | -0.195136 | 0.8502 |
| EXT | 3.054581 | 2.456017 | 1.243713 | 0.2488 |
| INT | -5.524994 | 3.355746 | -1.646428 | 0.1383 |
| EXTC | 0.897237 | 2.327153 | 0.385551 | 0.7099 |
| INTC | 1.605391 | 3.392033 | 0.473283 | 0.6487 |
| R-squared | 0.776892 | Mean dependent var | | 52.04250 |
| Adjusted R-squared | 0.581673 | S.D. dependent var | | 5.614117 |
| S.E. of regression | 3.631109 | Akaike info criterion | | 5.723806 |
| Sum squared resid | 105.4796 | Schwarz criterion | | 6.110101 |
| Log likelihood | -37.79045 | Hannan-Quinn criter. | | 5.743588 |
| F-statistic | 3.979590 | Durbin-Watson stat | | 2.583767 |
| Prob(F-statistic) | 0.035690 | | | |

I chose this model as my best effort for several reasons. First, it features four different variables that are over or close to the 90% confidence level. Second, the size and direction of its coefficients are all logical. For example, if the challenger had an introverted spouse, then the incumbent party candidate would have the benefit of not having to win over voters that could otherwise be more attracted to a challenger's extroverted partner. Third, and finally, this model predicts a 53.73% vote-share for the incumbent Democratic Party in 2016, a reasonable number.

Discussion

Given the best model, there are many takeaways from this research. It first provides incumbent parties a comfortable start to reelection. This is shown by a constant coefficient of 48.12. Effectively, this means that if all of the independent variables equaled zero, then the incumbent party would win 48.12% of the two-party vote-share. In other words, if the changes in DPI and inflation rate are both zero, the US is not engaged in a foreign war, and both the incumbent and challenger's spouses are both "ambiverts," the incumbent party candidate can expect a 48.12% of the two-party majority vote-share. Although this would initially appear to start the incumbent party candidate in an electoral hole, achieving the positive coefficients such as those for disposable personal income and having an extroverted spouse have been fairly common over the last fifty years (no president has had a negative DPI growth rate in office). Instead, incumbent parties essentially have to prevent their presidencies from "going negative" because, more than likely, the incumbent party candidate will have experienced some economic growth in DPI and be married to an extrovert. As we can see from the negative coefficients, "going negative" would include allowing the inflation rate to rise dramatically, engaging in a

foreign war, and marrying an introvert (although marriage is generally an earlier life decision made without the foresight of becoming President). Otherwise, the positive coefficients make it easier to get reelected, for example boosting DPI and having an outgoing spouse to help you along the way.

Since political factors like midterm elections were removed, it is better for the president to focus on achieving national goals, particularly economic, than stress over political fights. This is especially relevant today as Congress is frequently embroiled in debate and prevents much from being accomplished legislatively already. Despite all this, President Barack Obama has excelled in turning the nation's economy around after the 2008 recession and achieving many popular goals like the Affordable Care Act and the Trans-Pacific Partnership. Moreover, Obama has overseen the winding down of the Iraq and Afghanistan Wars and reached millions more people through his sociable First Lady, Michelle Obama. My model captures these moments and paints a bright picture for the Democratic Party's chances in the 2016 election.

I would also consider my research successful in that the signs of my coefficients coincided with what I expected to find for each of my hypotheses. To sum up the hypotheses, I successfully confirmed H_1 , which posits positive economic effects (in this case higher DPI and lower inflation rates) lead to an increase in the incumbent party vote share of the two party majority vote. The statistically significant coefficients for DPI and inflation rate support this and further establish the importance of the economy to presidential outcomes. The testing of my second hypothesis, H_2 , demonstrated midterm elections have a statistically insignificant impact on my model and was dismissed as having little to no impact on presidential elections and removed from future models. Although I hypothesized the number of House seats won by the opposing party in the preceding mid-term could be inversely related to the incumbent party vote

share, I was not surprised because of the nearly invariable pattern Busch found in 1999 where the president's party usually loses congressional seats (Busch 1999). Accordingly, my research further supports Busch's position. Although H_3 , incumbent presidential candidates having more of the "it factor" will be more likely to receive the incumbent party vote share, was supported by a positive coefficient like I had anticipated, the variable was not statistically significant enough to warrant passing through into my final model and so I cannot confidently accept it as true. H_4 , a higher number of battle deaths within the previous year leading up to an election leads to a decrease in the incumbent party vote share of the two party majority vote, and vice versa, exhibited the inverse relationship I was looking for. However, it, too, struggled to be statistically significant, and so I must reject it as well. Fortunately, and most importantly to my research, I can reasonably build a case for H_5 , Presidential candidates with extroverted spouses are more likely to win a higher incumbent party vote share of the two party majority vote than candidates with ambi- or introverted spouses. This is so because, in the final model, both EXT and INT clear a 75% confidence interval stressful, which leads me to believe if the variables were further isolated and studied, then the spousal effects could bring forth a new area of research that can be explored and refined possibly through the implementation of questions about the spouse in future ANES surveys and other polls.

Conclusion

All in all, through this research, two important economic variables were extracted from six common economic variables to add to our current understanding of election forecasting. Furthermore, foreign policy, candidate favorability, and midterm elections were all reevaluated

to see which carried the most weight for an incumbent party to stay in power. These can be put to use to shape policy agendas and even be used by the opposing party to attack areas of weakness in the current administration. The spousal effect continues to grow over time, and it is interesting to see it evolve into a pseudo-tug o' war of who can be the best and most outgoing spouse possible. Although two extroverts are likely to balance one another out, an extroverted spouse versus an introverted spouse is likely to help his or her partner pull away from the other candidate because of the freedom it allows the candidate to campaign separately and have another voice championing the presidential cause.

In conclusion, presidential election forecasting still does not have a silver bullet, but the more we add to our models and understanding, the more capable we are to prepare for administration changes, analyze the long-term effects of policies, and connect big life decisions like marriage to the success of political careers. My research was most limited by sample size, but as time progresses, the more data we will have at our disposal to try new things in the field of political science. For now, we must focus on what we do know and continue building theories and models around what we do not yet know. It will be interesting to see how the outcome of the upcoming 2016 election compares to my prediction, but it is my hope that the general election will be within one or two percentage points. If that were to occur, then I can go back and continue tightening up the model to ensure its longevity for elections to come.

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