

# Investigating Predictors of 2016 Presidential Voting Behavior

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## Abstract

The 2016 U.S. presidential election was marked by an extreme significance in how it became the turning point of American politics. With GOP candidate Donald Trump's victory over Hillary Clinton, Trump's victory became an essential point in history that will be known for how it reshaped American politics, discourse, and voter attitudes and behavior. This paper utilizes four main data variables from the ANES 2016 Pilot Study to analyze economic, environmental, immigration, and racial advantages. The key findings within the paper highlight the importance of Trump's "America First" agenda, and how it resonated deeply in the core of his supporters. Cultural issues, such as immigration and national security, also played a central role, with Trump's rhetoric and policies appealing to voters seeking a return to traditional values.

The analysis reflects broader on the context of the election, utilizing both past actions of the US government. With some understanding of how the post-Trump US government operates, we can see a progression and some dissatisfaction among voters. Trump's outsider status and ability to channel frustrations into a compelling campaign narrative distinguished him from Clinton, a long-time political figure and former first lady. As political polarization continues to define America, the insights from 2016 remain vital for understanding the challenges of future elections and the evolving dynamics of voter behavior.

## 1 Introduction

The United States' political environment has proven to be increasingly complicated with many Americans experiencing conflicting ideologies, and diverse perspectives. Elections are at the core of rising political tension in the United States and being able to understand how Americans feel about critical issues and predict who they vote for interprets voter behavior, reveals divisive issues, evaluates democracy, and anticipates future trends which are important for managing the polarized political environment in the United States.

In this paper we will investigate the correlation between voters' positions on social/political topics and their preferred candidates by focusing on the 2016 Presidential Election by using the the ANES 2016 Pilot Study which surveyed 1,200 respondents on several issues. The study was conducted online from January 22nd, 2016 to January 28th, 2016 and is a valuable resource for investigating correlations.

## **2 Background**

Every four calendar years in the United States, an election is held for the Chief Executive role of President. These elections invite a host of candidates from many different parties. Still, mainly the candidates from the Democratic and Republican parties are the ones who receive not only the top press but have the top name recognition among voters. In the 2016 election, we know that Hillary Clinton was the Democratic candidate, and Donald Trump represented the Republican party as a candidate. This election marked a significant shift in political discourse and voter behavior, with the GOP's Donald Trump securing a surprise victory, shifting how politics is discussed for the foreseeable future.

Many factors can be seen as the reasons why any individual would have voted for Donald Trump over Hillary Clinton and vice versa. The most interesting part that political and data scientists can see is that this election sheds light on the evolution of political alignments and voter preferences, sometimes a bit more than in elections prior. This paper utilizes the ANES 2016 Pilot study to examine some predictors that might have influenced a vote for Trump over Clinton. This analysis focuses on using economic, demographic, and environmental variables that might have influenced voter decisions.

The economic state of the country held significant importance for both Trump and Clinton supporters. As the 2016 election signaled the end of the Obama Administration, many Clinton supporters emphasized the progress made during Obama's tenure, particularly considering the 2008 Financial Crisis that Obama spent his first term recovering from. Conversely, many Trump supporters underscored the economic growth that was necessary but not achieved under Obama. These sentiments were particularly evident in the Midwest states of Michigan and Wisconsin, as well as in crucial swing states like Pennsylvania and Georgia. Trump's economic agenda centered around "America First" policies and his critical stance on the North American Free Trade Agreement (NAFTA), resonated with voters who felt disenfranchised due to unemployment and rising economic challenges. (Sawhill)

Many cultural issues, such as immigration, religion, and emotional issues, became a significant conversation during the 2016 presidential election. While both candidates were highly critical of immigration, particularly illegal immigration, Trump brought a hard stance on immigration and national security. His proposal included an attempt to build a border wall on the southern border with Mexico, coupled with planned deportation strategies and a complete ban on incoming flights from certain countries, resonated deeply with his base, who overwhelmingly

supported his advocated ideas. Trump’s main campaign slogan, “Make America Great Again,” resonated with his base and became a cultural rallying cry for them. (Hawley)

Trump can attribute his win in 2016 to many complex issues, and differing beliefs among the American people. The complex back-and-forth of economic complaints, cultural concerns, political sentiments, and strategic communication. These factors not only explain why specific groups of voters supported him but also highlight the evolving nature of American political behavior and the enduring impact of the 2016 election on the nation’s political landscape.

### 3 Data and Methods

We utilize data from the ANES 2016 Pilot Study which had a survey of 1,200 respondents between January 22 and 28, 2016. From this data we identified four variables that we hypothesize will demonstrate a correlation between a voter position on social/political issues and their preferred candidate and cleaned and graphed using R Studio to reflect the data of just the responses and the data of their responses with who they voted for. These variables include: Perception of the economy at the time of the survey compared to a year prior, opinion about the federal government’s role in addressing climate change, perception of radical advantage or disadvantage held by white people, and opinion on immigration numbers. The unit of analysis refers to the individual respondent, the primary outcome of interest is the vote, and key predictors are the responses to economic perceptions, immigration, global warming, and racial advantages.

#### Setting up the R Environment and Data Processing

We first set up our R environment before cleaning and processing our data. This is done by loading the libraries “here”, “tidyverse”, “dplyr”, and “ggplot2”. These libraries allow for data manipulation, analysis, visualization, and replication.

We then load ANES 2016 Pilot Study into R studio by using the command “anes\_data <- read\_csv(here(“data”, “anes\_pilot\_2016.csv”))”. Next, we prepare the 2016 vote choice variable extracting the variable, replacing missing values, and transforming to a factor through the following code:

```
vote2016 <- anes_data$vote16dt vote2016 <- ifelse(vote2016 == 9, NA, vote2016) vote2016
<- factor(vote2016, levels = c(1, 2, 3, 4), labels = c(“Clinton”, “Trump”, “Someone Else”,
“Probably Not Voting”))
```

We then move onto data cleaning for the four variables:

#### Economy Compared to One Year Ago

In order to prepare the “Economy Compared to One Year Ago” data for visualization, we extract the economic perception variable using “econnow <- anes\_data\$econnow” and we filter the data using:

`anes_data_clean <- anes_data %>% filter(!is.na(vote2016) & !is.na(econnow))`". This command excludes NA variables from our data.

The Federal Government Should Be Doing More/less about Rising Temperatures

In order to prepare the "The Federal Government Should Be Doing More/less about Rising Temperatures" data for visualization, we extract the economic perception variable using `warmdo <- anes_data$warmdo` and we filter the data using:

`anes_data_clean <- anes_data %>% filter(!is.na(vote2016) & !is.na(warmdo))` This command excludes NA variables from our data.

Compared to other groups, white people generally have an advantage/disadvantage

In order to prepare the "Compared to other groups, white people generally have an advantage/disadvantage" data for visualization, we extract the variable using `white_adv <- anes_data$wad4b`, handle the missing values using `white_adv <- ifelse(white_adv == 9, NA, white_adv)`, add clean variables to the data set using:

`anes_data$vote2016 <- -vote2016`  
`anes_data$white_adv <- white_adv`

Then, we filter the data using:

`anes_data_clean <- anes_data %>% filter(!is.na(vote2016) & !is.na(white_adv))`.

Increased/decreased the number of people allowed to legally move to the United States

In order to prepare the "Increased/decreased the number of people allowed to legally move to the United States" data for visualization, we extract the variable using `immig_numb <- anes_data$immig_numb` and we filter the data using:

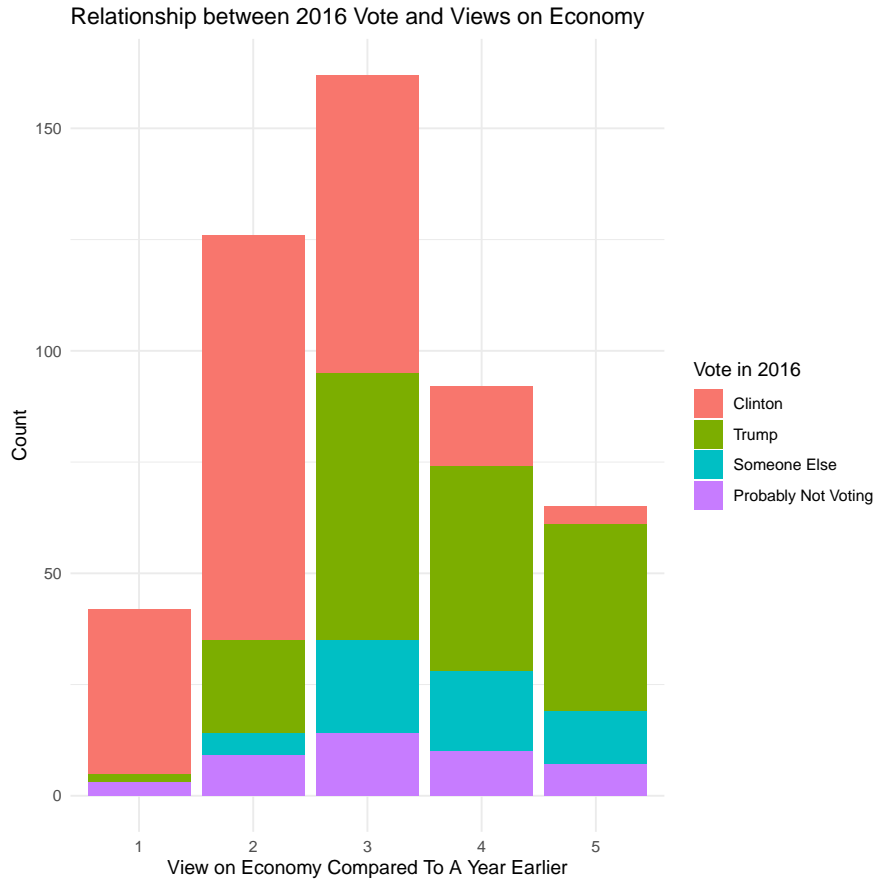
`anes_data_clean <- anes_data %>% filter(!is.na(vote2016) & !is.na(immig_numb))`.

Graphing and Modeling the Variables

We use bar charts and stacked bar charts using `ggplot2` and `geom_bar` to visualize our data. The bar charts examined the distribution of responses and the stacked bar charts visualized their relationships with their 2016 vote choice. We also use generalized linear model function for logistic regression of the variables.

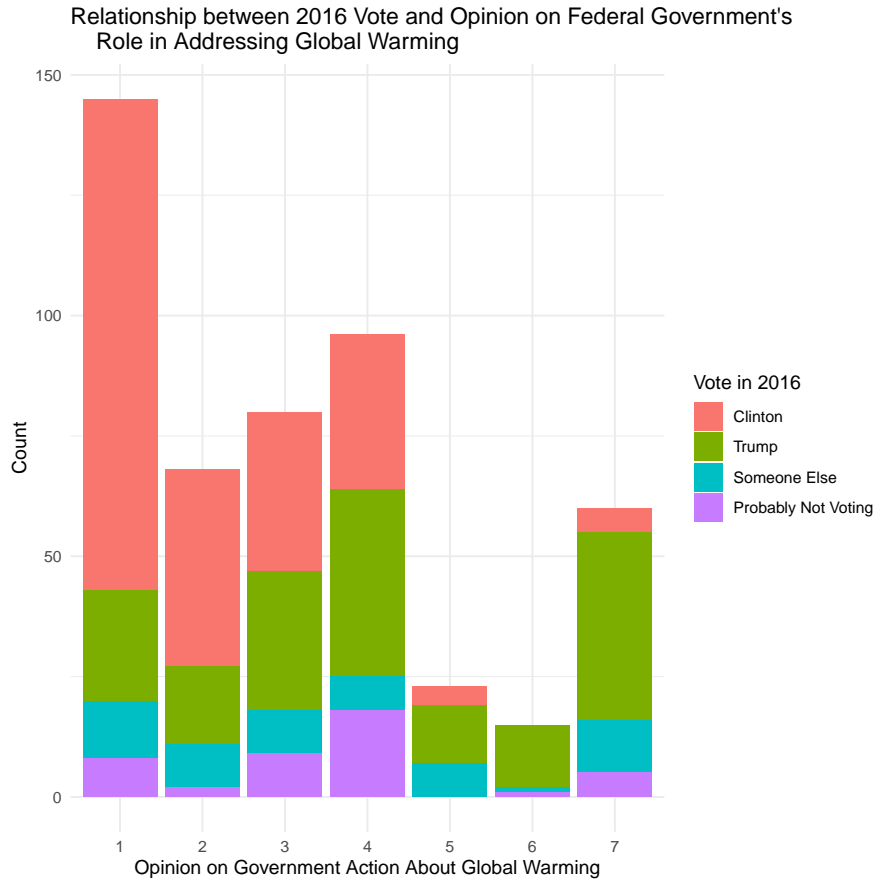
## 4 Results and Analysis

One relationship we sought to analyze was the connection between respondents' views on the economy and their candidates of choice in the 2016 election. We generated the graph below to visualize this data. A response of 1 indicates that a respondent believed that the economy was "much better" than it had been a year earlier, 3 represents the belief that the economy was "about the same," and 5 expresses that a respondent believed the economy was "much worse."



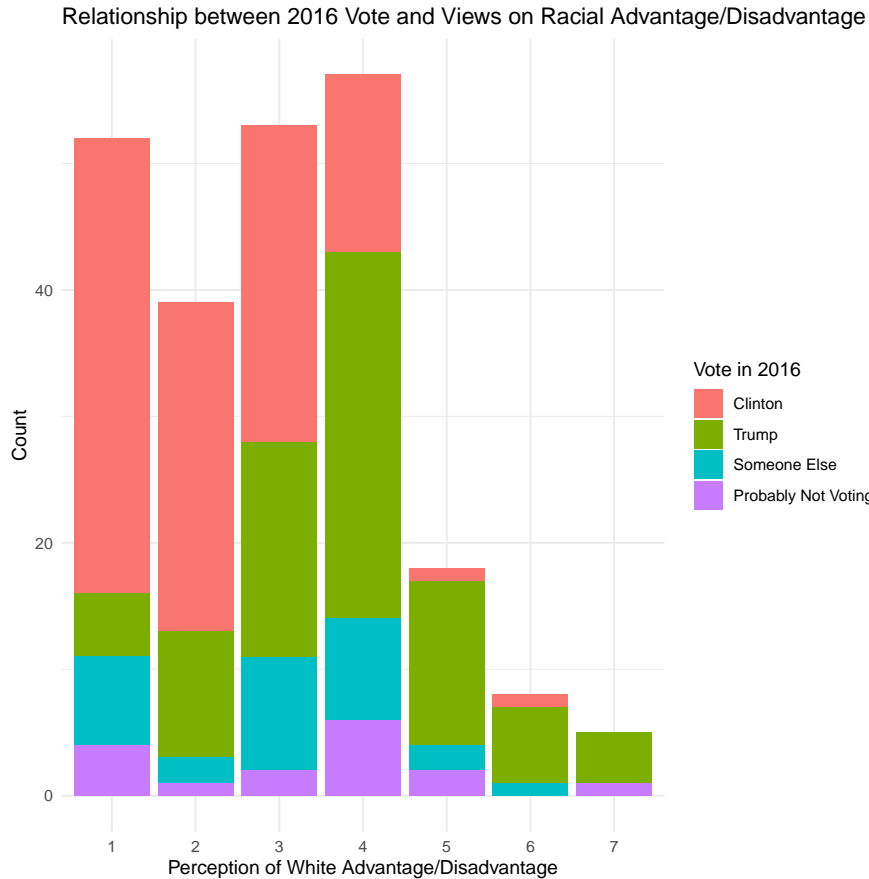
The graph shows a tendency for voters who were happy with the state of the economy (compared to a year earlier) to favor Clinton, while voters who were unhappy with the state of the economy favored Trump.

We also explored how respondents' views on the federal government's responsibility to address global warming were related to their candidates of choice. The figure below graphs voters' responses in which they were asked to describe their opinions on the issue on a scale of 1 to 7, with 1 meaning the government "should be doing a great deal more" regarding climate change, 4 meaning "is doing the right amount," and 7 meaning "should be doing a great deal less."



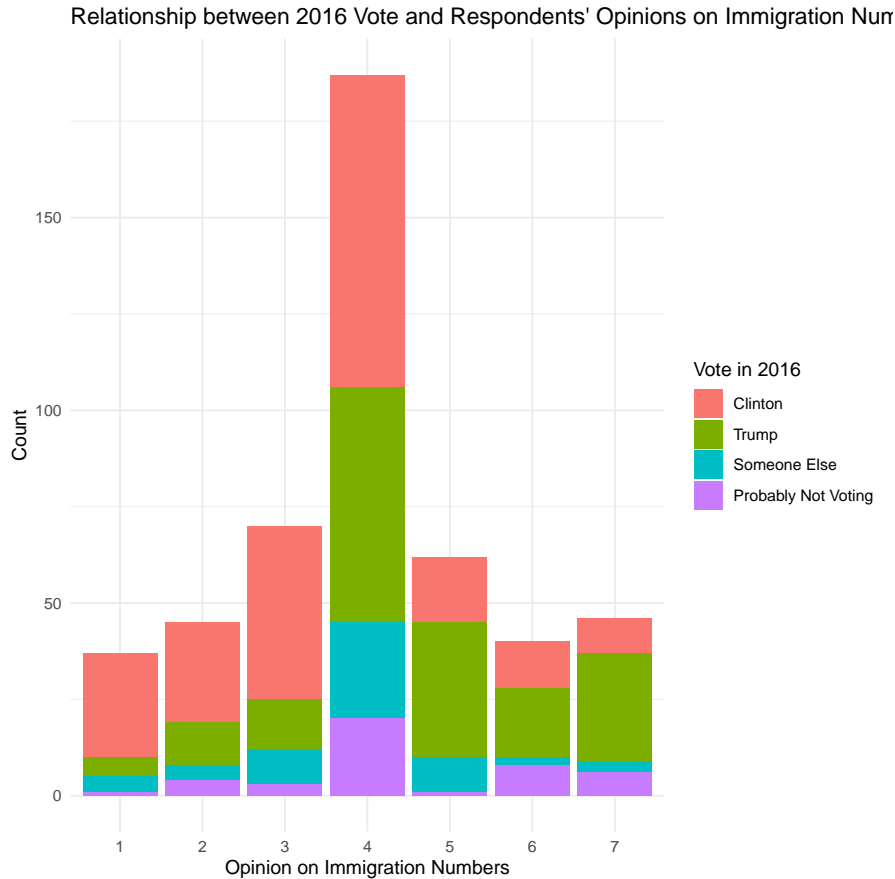
The graph shows that respondents who believed that the government should be doing more to combat climate change were more likely to support Clinton, while voters who believed the government should be doing less about it were more likely to support Trump.

In the next figure, we sought to understand how the perception of racial advantages or disadvantages affected a voter's candidate of choice in 2016. Respondents were asked to represent their opinions using a scale of 1 to 7, with 1 meaning white people generally have a "large advantage" compared to other groups, 4 meaning "it does not make any difference," and 7 meaning white people are at a "large disadvantage" compared to other groups.



The graph above shows that people who believed that white people have advantages over other groups tended to favor Clinton, while people who believed that white people are disadvantaged tended to favor Trump. The neutral group in this case (respondents who did not believe white people had any racial advantage or disadvantage) also leaned towards Trump.

Finally, we looked at the relationship between respondents' views on immigration numbers and their candidates of choice in the 2016 election. Respondents were asked to express their opinions on a scale of 1 to 7, with 1 meaning the number of legal immigrants allowed into the United States should be "increased a lot," 4 meaning "kept the same," and 7 meaning "decreased a lot."



The figure above illustrates a tendency for respondents who supported higher numbers of legal immigrants to support Clinton, and a tendency for respondents who wanted lower numbers of legal immigrants to support Trump.

We can use our findings from the data analysis to predict an individual's candidate choice based on their responses to the questions. To do this, we can use a binary representation of possible candidate choices (with 0 representing a vote for Clinton and 1 representing a vote for Trump, and ignoring other responses for the purposes of this analysis) and use statistical methods to generate a predictive value between 0 and 1 for any combination of responses to the four questions. A reasonable threshold to use for this prediction would be 0.5, meaning that if a respondent is assigned a value below 0.5 based on their responses they would be expected to vote for Clinton, and if they receive a value above 0.5 they would be expected to vote for Trump.

We were curious about this predictive method's accuracy when tested on the ANES respondents' data. To investigate this, we selected the 187 survey respondents who had answered all four political opinion questions as well as their candidate choice, and generated predictive values for them based on their political opinion responses. We then compared their predicted



candidate choices (determined by whether their values were above or below 0.5) with their true reported candidate choices. Our predictions were correct for 83.42% of the 187 respondents.

Our findings also allow us to investigate the expected difference in candidate choice for individuals with specific combinations of political opinions. For example, if we compare a hypothetical individual who chooses the neutral options for all four questions (ratings of 4, 4, 4, and 3 for the questions about race, climate, immigration, and economy respectively) with an individual who chooses all of the neutral options with the exception of climate change (ratings of 4, 1, 4, and 3), we find that the predictions generated for these two individuals are 0.690 and 0.404 respectively. The significant difference between these values suggests that environmental concerns can have a large impact on the candidate choice of a voter who is otherwise neutral on the topics of economy, race, and immigration. (Namely, the individual who believes strongly in the need for the government to do more to address climate change is expected to be much more likely to vote for Clinton in this situation.)

## 5 Discussion

This paper's main goal was to find an understanding of why voters would have chosen to vote for Donald Trump over Hillary Clinton. Through our analysis of economic, environmental, racial, and immigration issues, our results provide some insight into what motivations specific voters would have had to vote for Trump. Utilizing the 2016 ANES Pilot Study allowed us to receive some viable information about what voters' beliefs and top issues were going into the 2016 election versus in a post-outcome like we would have seen in the follow-up 2016 Time series study.

While the primary goal of this paper is to understand why voters voted the way they did, it is important to understand and reflect upon the broader context that came with the 2016 election. The end of the Obama Administration left some with a feeling of home and growth, while for others it became a turning point in the ideals of America for many other voters. Voters in the Clinton camp primarily came with an understanding of the progress that the country had achieved under Obama and hoped to see more progress being made as not only the first woman president but also as a picture of where the country could go in the years to come. On the other hand, Trump's camp was widely marked with dissatisfaction with the work under President Obama, and a highlight of the shortcomings of President Obama became a key point, especially as Trump touted his plan to repeal the Affordable Care Act, a program which became widely known as "Obamacare".

The divide in supporters of both candidates highlighted a divide and a growing polarization in the US, polarization so strong that it became instrumental in the shaping of politics and the political arguments that began to be made. Trump was able to position himself as an "outsider" to politics, an argument that Hillary Clinton, former First Lady, Senator, and Secretary of State, couldn't argue a response to. His appeal to white males, those who weren't

college educated, and in many places young voters who were disillusioned with the traditional politics and the political elites of America.

Ultimately, our analysis highlights a strong understanding of the complexities of a voter and their decision-making abilities. No one issue made Trump the victor over Hillary, but a combination of factors, including his ability to channel frustrations into a compelling narrative. As the political landscape continues to evolve, the lessons of 2016 remain relevant for understanding the dynamics of American democracy and the challenges facing both policymakers and political candidates in future elections.

## References

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