



# National Security: Does the Talk Match the Dollars?

## Topic Modeling to Map Presidential Speeches to Defense Spending, Casualties, and Freedom

Ben Gimbel

IPHS 300 (Spring 2023) Professors Elkins and Chun, Kenyon College

### Introduction

Following an election determined by 537 votes, George W. Bush took the White House on January 20th, 2001. Over the first eight months, President Bush delivered around 600,000 words in an official capacity, ranging from speeches to memos to publicized conversations.

The presidency in itself does not have immense power. The executive has no power over money, cannot originate conflicts, and may plays a minimal role in passing legislation— or at least according to the Constitution. In actuality, the Bush presidency highlights one of the greatest expansions of presidential power since Franklin Roosevelt.

Presidential power hinges on influence. As the executive does not have tangible control over the most vital elements of American government, they must use persuasion and power to get the results they want. When presidents are most effective, they are able to position themselves as the embodiment of the will of the people, putting pressure on other actors to comply with their wishes.

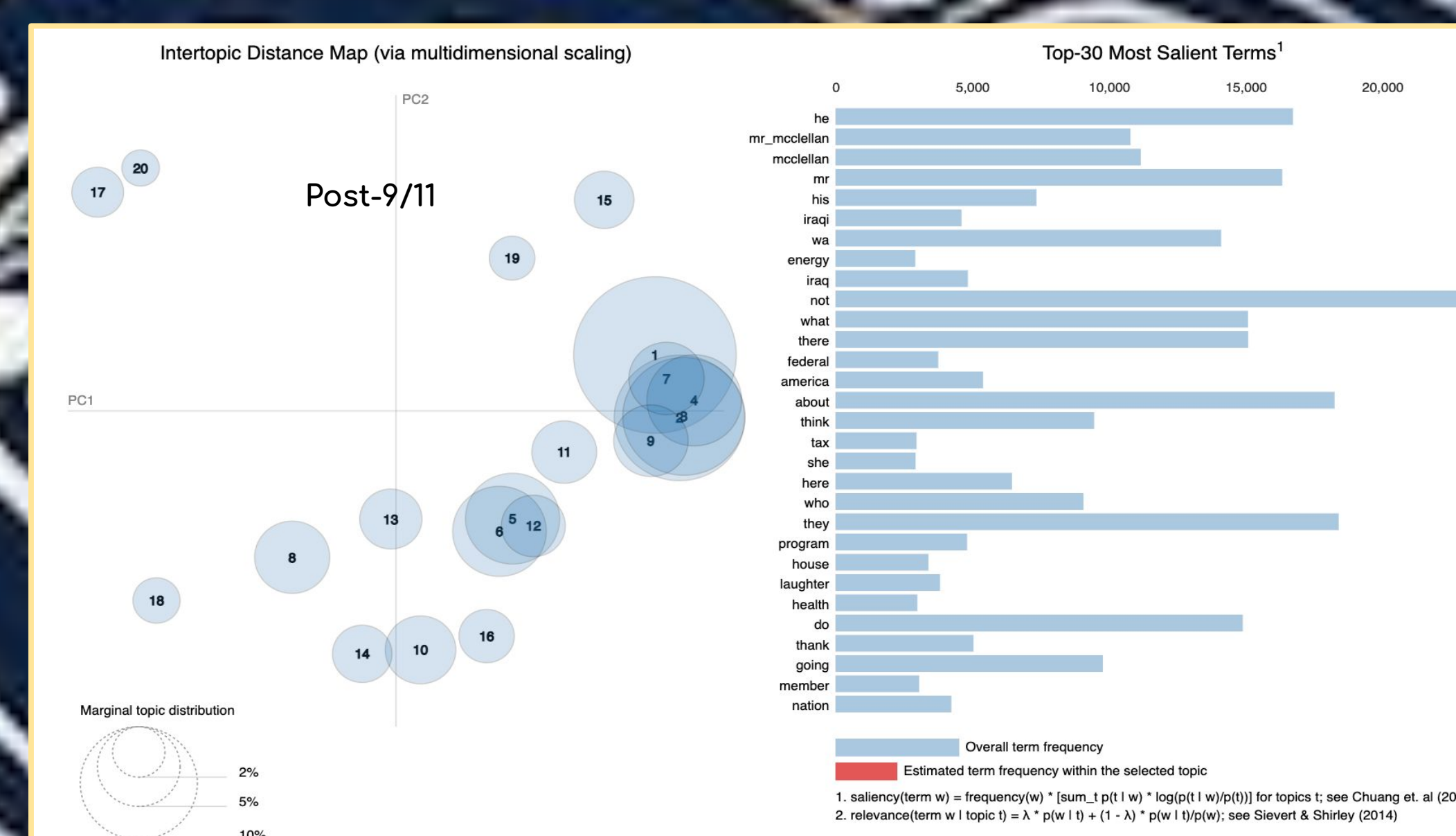
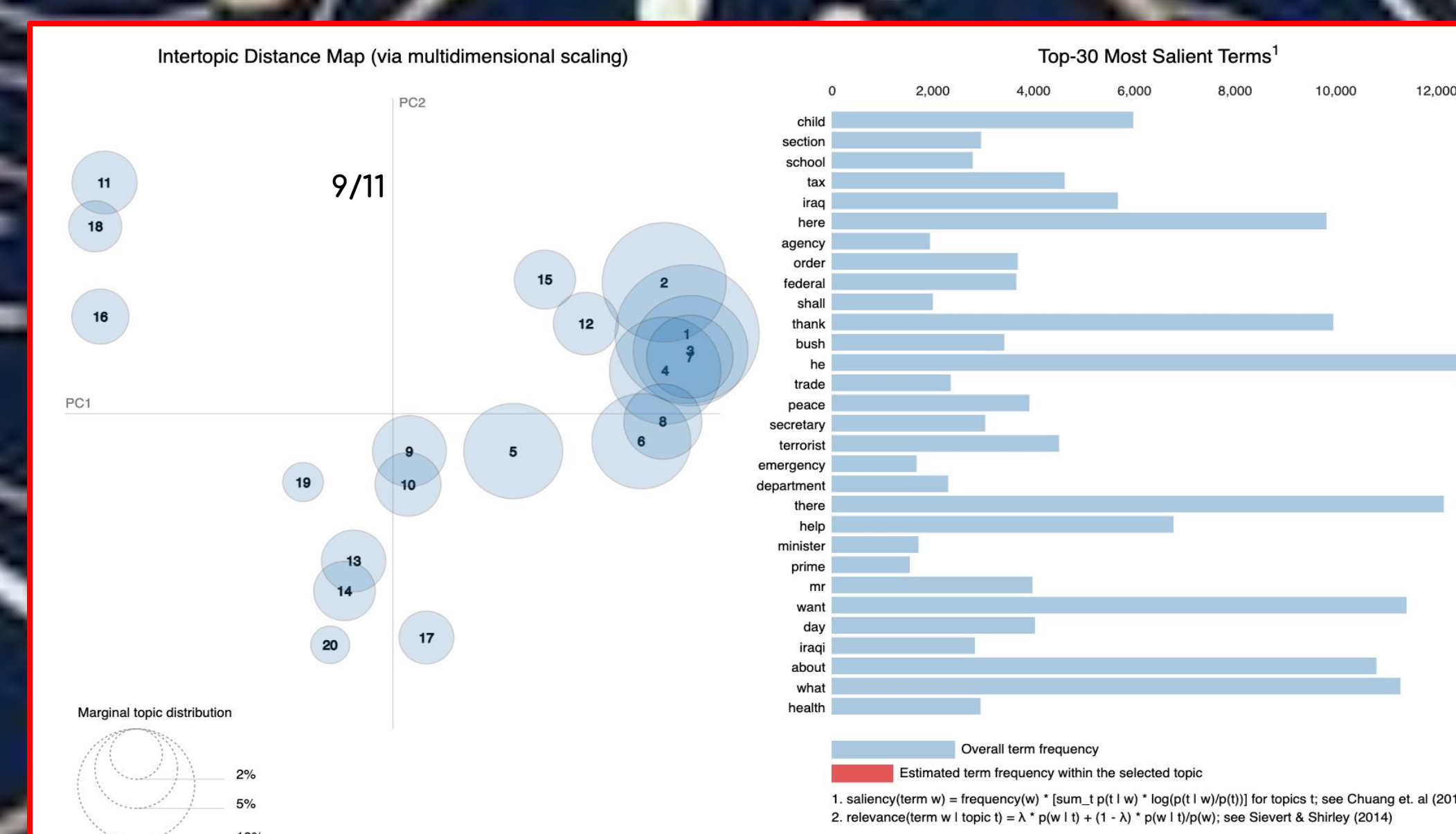
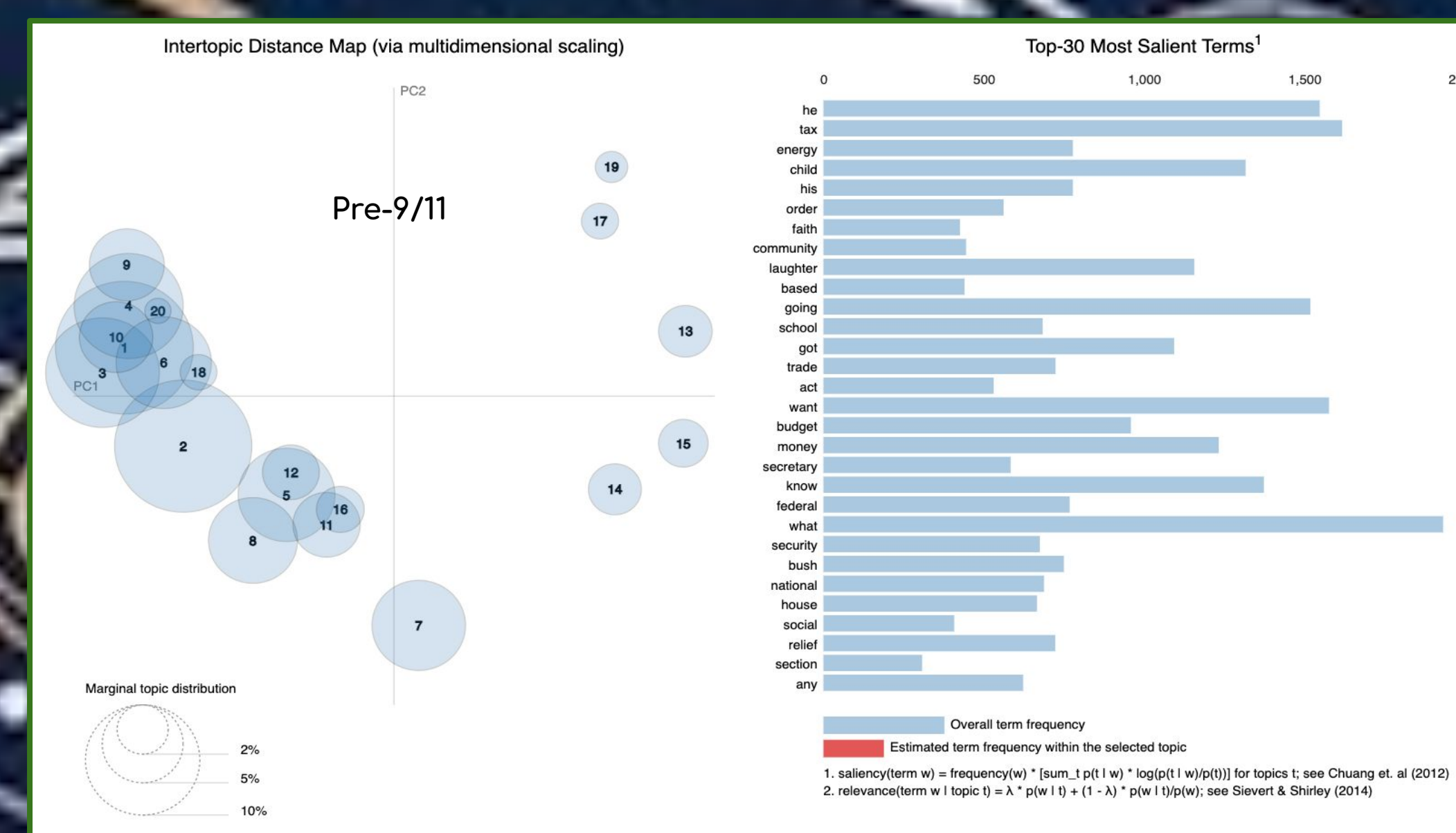
In the wake of an attack which shook the core of America, the rally-around-the-flag effect makes it easy to position yourself as the true leader of the public. This endowed President Bush with substantial power and leeway. Still, the bully pulpit was not the only presidential power which got bolstered in 2001. With the Patriot Act and Authorization for the Use of Military Force, the presidency became much more tangible. This is to say that instead of having pressure on the vital decision makers, the president was constitutionally delegated the power to act unilaterally. Much can be learned from matching the ‘old’ presidential powers of persuasion to the ‘new’ military powers Congress surrendered.

### Methodology

The *American Presidency Project* (APP), run by the University of California, Santa Barbara, holds a record of every public communication from President Bush, totalling around 18 million words. By breaking these down into the pre-9/11 (Jan. 20 2001-Sept. 10 2001), 9/11 (Sept. 11 2001-Dec. 31 2004), and post-9/11 (Jan. 1 2005-Jan 20 2008) periods, we can see the evolution of the different topics and priorities of President Bush. The changes in the administration’s ‘public face’ provides insight into the use of the president’s image in applying soft power to issues. Then, the variation between the periods can be compared to the effects of the presidency on the ground— the defense budget, soldier casualties, and polling numbers. While this cannot describe the causal functions of the president’s podium, it can highlight correlations between presidential language and substantial changes in policy or politics.

The first step was scraping the data. Using the *BeautifulSoup* library, I wrote a web scraper which went through the APP’s advanced search results, analyzed the thousands of speeches, cleaned the data to only speech text, and stored them in files. After compiling the data, I tokenized it, lemmatized it, and ran them through the Gensim Latent Dirichlet Allocation topic modeling library. Data was divided into pre-, 9/11, and post- period chunks, creating three distinct lenses to view how President Bush wielded the sword of presidential communication.

With the topic modeling data, we can compare how the subject, diversity, and dominance or distribution of topics evolves over time. This can be viewed in tandem with other data from these time periods. Specifically, the search for patterns between what topics are prevalent and how U.S. spending and policy change offers insight into the effects of the president’s words, whether through pressure on relevant actors or securing greater powers for the executive branch.



### Results and Conclusions

The changes in topics are significant. Pre-9/11 shows *tax*, *education*, and *budget* specific topics dominating with no mention of foreign policy. After 9/11, talk of terror, Iraq, and security skyrocket. Furthermore, there is less diversity of topics, as the vast majority are related to the attacks (demonstrated by the overlap of topics in the 9/11 figure). This is when we begin to see the most dramatic changes in U.S. defense spending and service member casualties. In the post-9/11 period, topics split the difference, with *Iraq* and *Iraqi* very high up. This is well into the Iraq war, whereas in the early days which occur late in the 9/11 corpus, these terms are less common (although still frequent). *Democracy* and other Iraq war-related terms also appear in topics. This period is when liberties in Iraq show the most substantial changes.

Even as the topics shift from defense back to domestic politics, defense spending continues to go up, both in dollar amount and percent of GDP. This indicates a degree of public attention span exhaustion— the public face of the presidency does not always match the political workings behind the scenes. Given the unpopularity of the war in Iraq and the shock of 9/11 wearing off, the communications faded, while the plans the Bush administration drew up for new national security continued.

The rise in casualties even as topics shift back to domestic matters is also worth noting. Whether the reduction of attention is due to evading public scrutiny, or the opposite, reduced public interest, is unclear.

The role of foreign cooperation is also highlighted. Terms such as secretary, prime minister, trade, and peace appear in the 9/11 model, but very little in pre-9/11 and post-9/11 models.

### Future

In order to make broader conclusions about the effects of the presidential podium on a variety of dependent variables, the corpus of all modern presidential speeches should be analyzed. This way, any elements specific to the 9/11 period would be moderated by greater data.

Other AI methods, such as sentiment analysis, could also be considered to find correlations between tone and various policies. Furthermore, comparing speeches and polling data could lead to practical uses for measuring potential electoral success. As artificial intelligence becomes increasingly integrated into politics, it will be a useful tool in understanding the modern presidency.

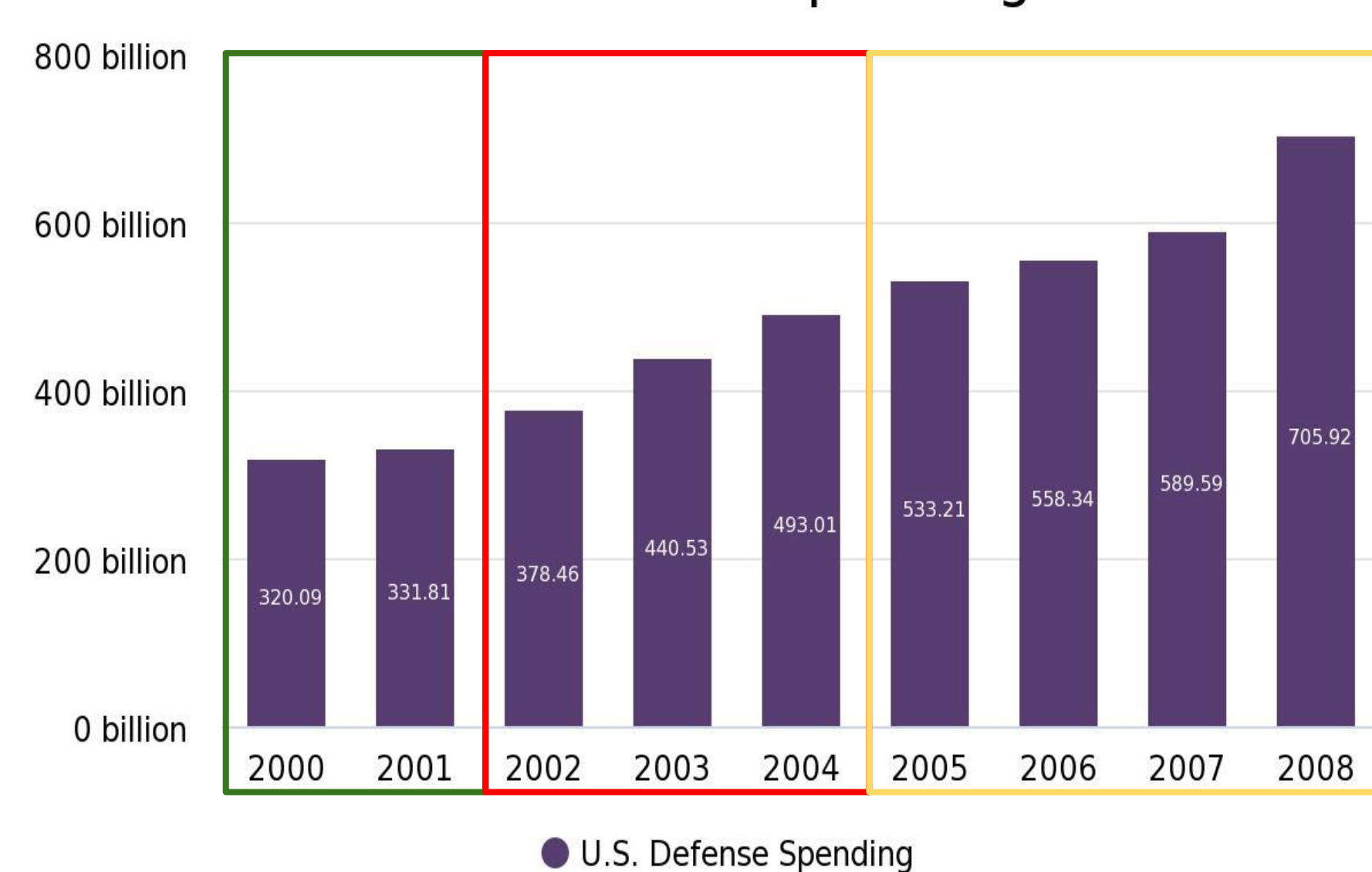
### Acknowledgements

Thanks to Professor Jon Chun and Professor Katherine Elkins for assistance in the project. Data from the *American Presidency Project* and the AI resources from BeautifulSoup, Gensim, and GPT were integral parts of the research.

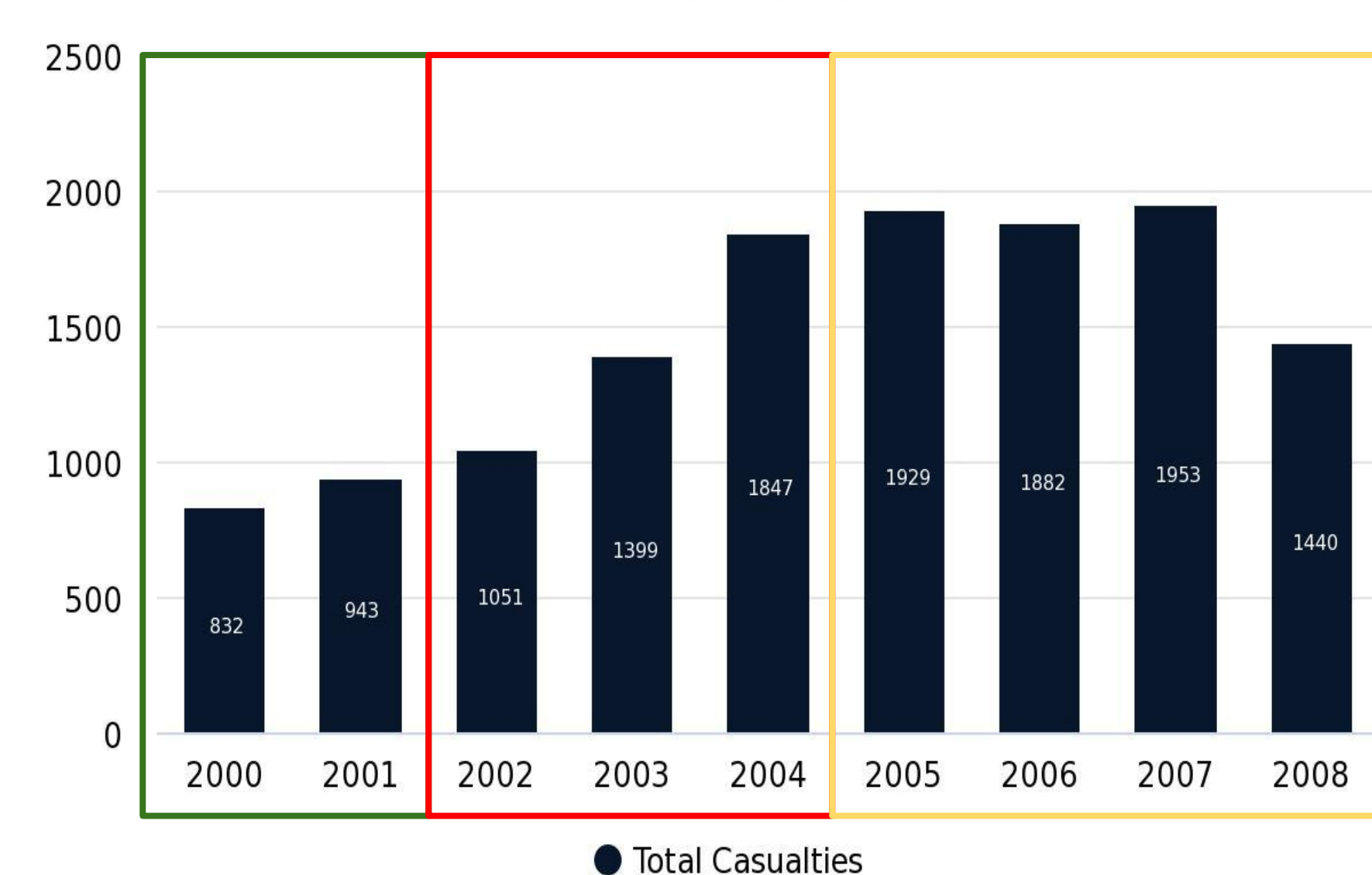
More information on the role of persuasion in the presidency can be found in Richard Neustadt’s book, *Presidential Power and the Modern Presidents*. Freedom House is also an excellent source for modern global political data.

## Data and Visualizations

U.S. Defense Spending



U.S. Service Casualties



Combined Freedom House Liberties Score (Iraq)

