Economic Conditions and the Inaugural Speeches

Yue Jin

Figure 1: image

Data Preparation

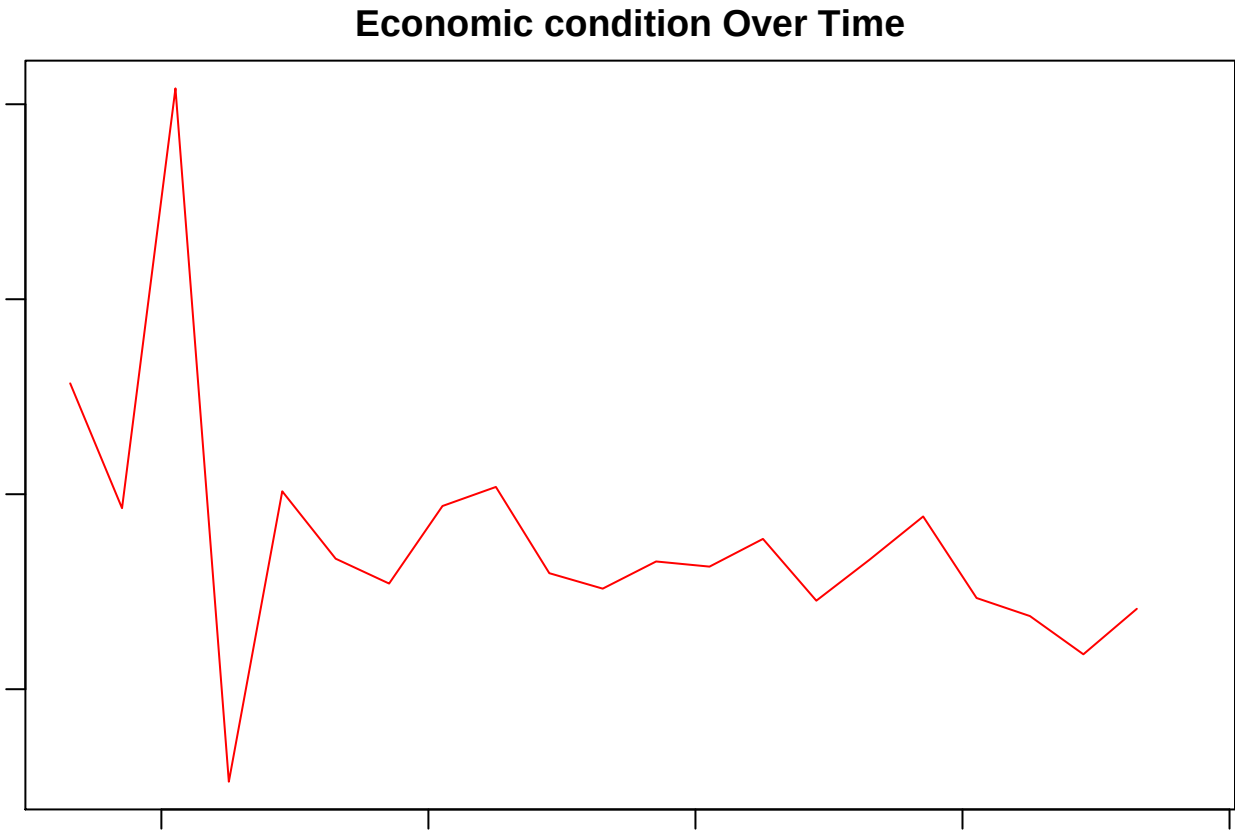
- Set environment: install and load libraries; chunk options
- Import data
- Only data/speeches collected after 1929 are included due to the availability of economic data
- Scrap inaugural speeches from the website
- Import GDP growth data from the local files
- Inital data processing
- Remove extra white space, convert all letters to the lower case, remove stop words, removed empty words due to formatting errors, and remove punctuation

Topic Modeling

- Run LDA on our speech data
- Set number of topics as 15
- Extract the 15 most likely terms and the 10 most salient terms for each topic (only displaying the first 5)
- Summarize Each Topic with One Word topics.hash=c("Tax", "Defense", "America", "Economy", "America", "Prosperity", "Leadership", "Reform", "Liberty", "International", "Nation", "Freedom", "Democracy", "Misc", "Power")

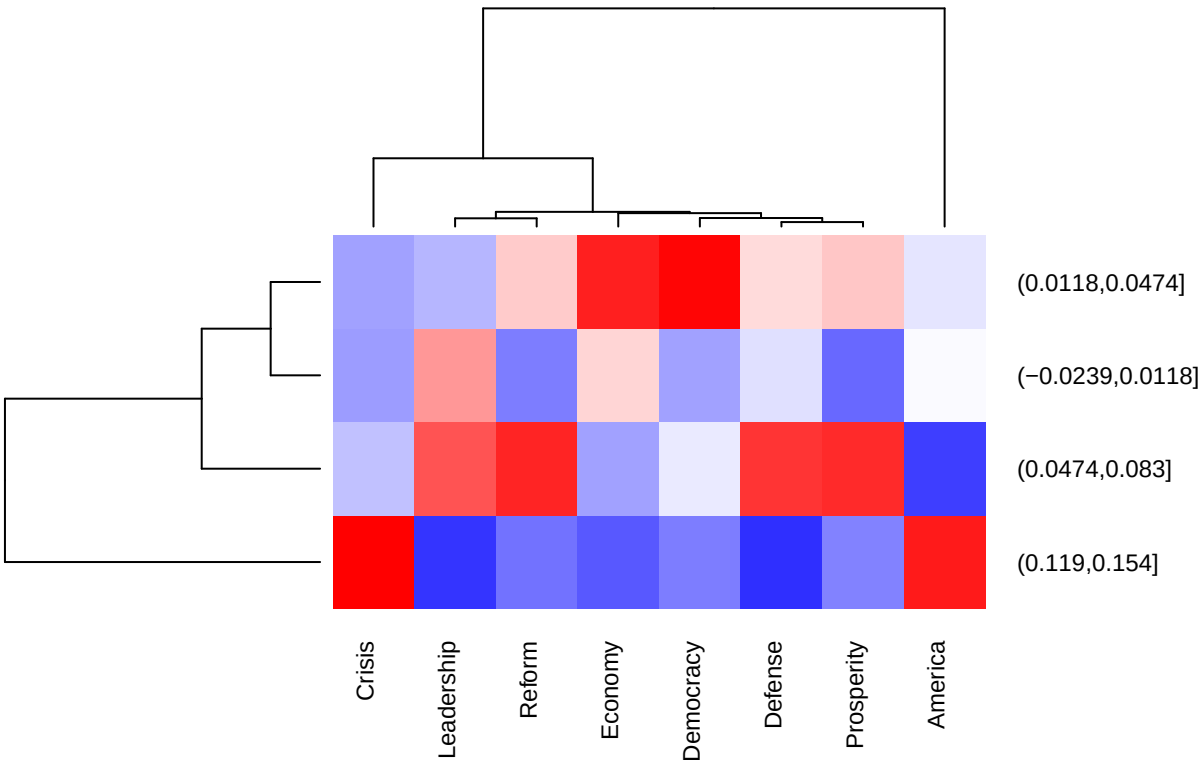
How topic shifts given different economic conditions

- Inspect how economic condition changes over time

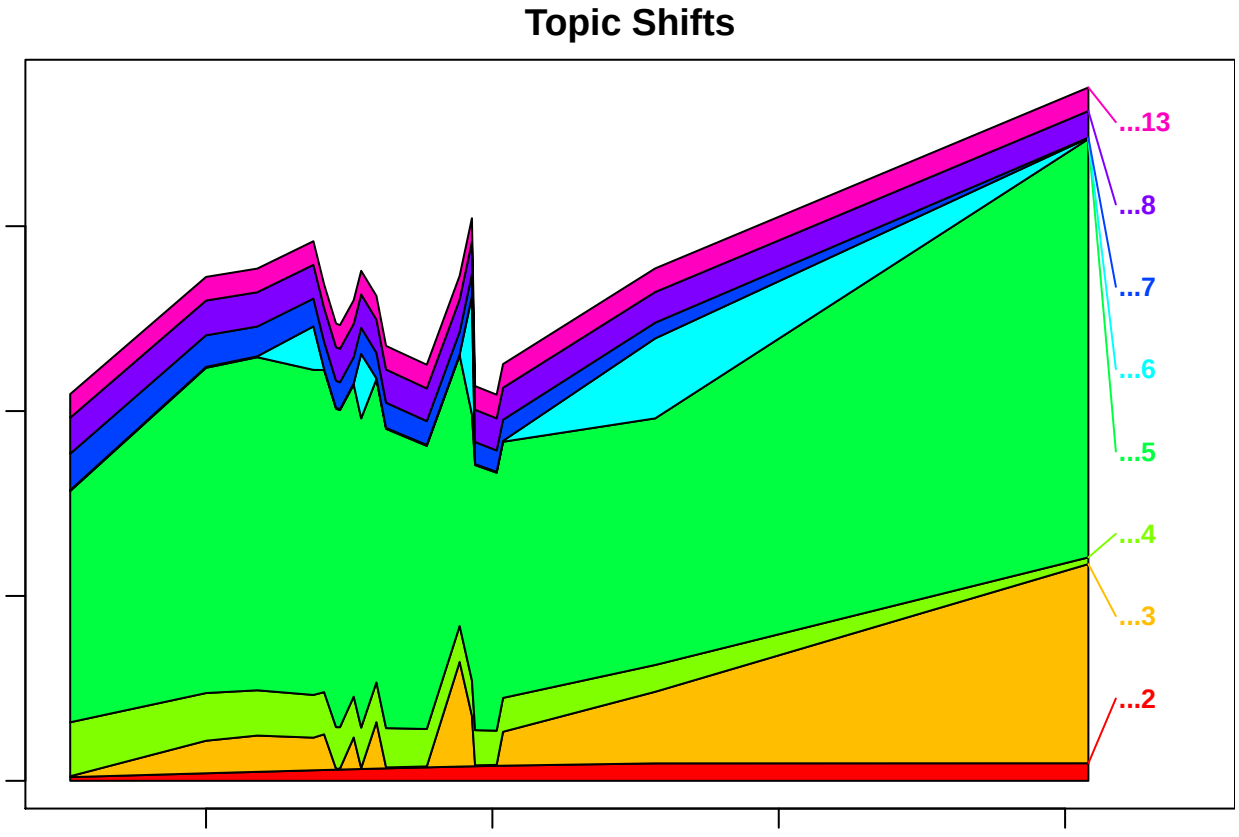


What topics are more heated during different periods of time

- During more recent times (GDP growth rate 0-3%), alll topics are mentioned in the inaugural speeches. During more prosperous years, presidents talked more about *Reform*, *Prosperity*,*Derense*. During distressed time, presidents focused attention on *America* and *Economy*.

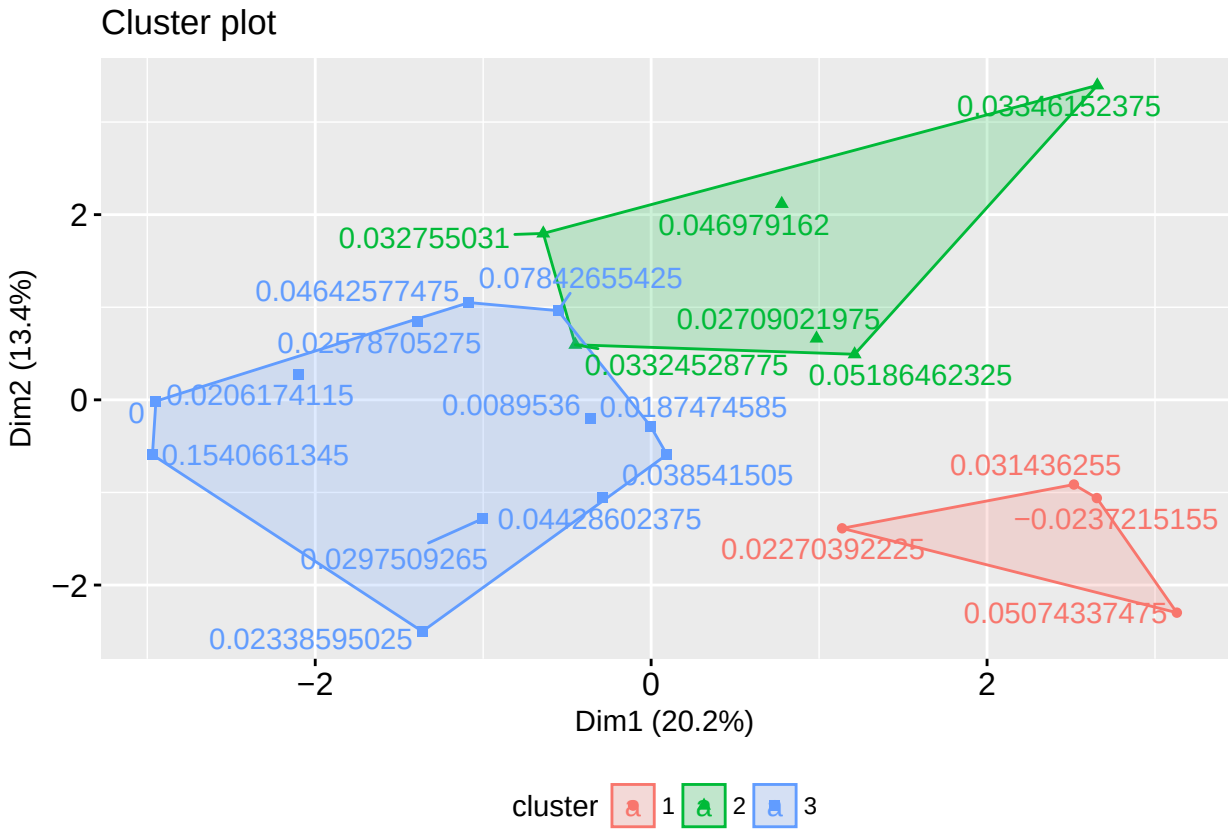


How topics shift as economic condition changes



```
## [1] 0.08906563 0.17813126 0.26719689 0.35626252 0.44532815 0.53439379
## [7] 0.62345942 0.71252505
```

How much topics differ given different economic conditions



Who is the president in the year with highest/lowest GDP growth rate?

```
## [1] "Franklin D. Roosevelt"
## [1] "On each national day of Inauguration since 1789, the people have renewed their sense of dedicati
## [1] "Franklin D. Roosevelt"
## [1] "Mr. Chief Justice, Mr. Vice President, my friends:You will understand and, I believe, agree with
```

Reference

- Text mining with `tidytext`.
- Basic Text Mining in R