

Problem Set 1: Part 2

MACS 30200

Leoson Hoay

Assigned Paper:

[Grimmer, J. \(2016\). Measuring Representational Style in the House: The Tea Party, Obama, and Legislators' Changing Expressed Priorities.](#)

1 Research Question

The paper uses a statistical model to examine House rhetoric and unveil changes in the way legislators define representation and engagement when communicating with their constituents, in response to shifts in electoral pressure and changes in party dominance.

2 Data

The main source of data for this study is a collection of House press releases from each House office, between 2005 to 2010. This amounted to nearly 170,000 press releases.

3 Theory

The paper references past studies that have explored varied types of models in text analysis. These include the Structural Topic Model (STM), clustering models, and task-specific tests. The paper builds and adapts from these by using a two-layer hierarchical model adapted from Blaydes, Grimmer, and McQueen 2014. Aside from statistical foundations, the paper makes little other references to theory.

4 Type of Study

The study is a combination of a descriptive study and an identification exercise in that it begins with exploration and classification of the dataset using an unsupervised learning model. The model was then able to "accurately identify both coarse and granular topics and to reliably estimate legislators credit claiming propensity". This allowed the study to reveal how legislators' expressed priorities change with events, using these topic estimates.

5 Computational Methods

Each press release is represented as a 2,727 element-long count vector, where each element is a count of the number of times a token occurs in a document from a specific legislator - a type of document-to-vector model. A two-layer hierarchical model is then applied to cluster the documents into granular topics, which are then clustered into coarse topics, which can be analyzed to determine change in communication styles. The "over time variation" in the prevalence of topics is then used as a measure of

face validity of the derived topics from the model.

The results indicate that Republican legislators abandon credit claiming in favour of criticizing healthcare policies, stimulus expenditures, and the Obama administration, while Democratic legislators increase credit claiming communicative behavior. The study also shows that the coarse topics of attention to legislators are temporally stable, which demonstrates reactivity of the legislators to external political conditions. The validation of this methodology also provides a foundation for the future use of computational tools in studying political communication and representation.

6 Comments

While the model seems robust for topic estimation in House press releases, it would be beneficial to cite more references or theory regarding the reliability and power of press releases in capturing communication between legislators and constituents. There are certainly other channels through which constituents and legislators interact; While the paper does state that there is "increasing evidence" for the abovementioned and cites Grimmer 2013, given the centrality of this medium to the methodology of the study, it would behoove the paper to spend more space laying the groundwork for this claim.

In addition to Figure 3 (pp.21), the plots of press release topic allocation could be re-hashed once again in a comparison with real world event plots, in order to emphasise and solidify the claimed effect of Obama's election on legislator communications.