Network Maps and Congressional Frames:
Analyzing Bill Titles as a Field of Conflict

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Abstract

What can we learn about how Members of Congress (MCs) frame the regulation and uses of the Internet by analyzing how they entitle legislation they sponsor that contains the word 'Internet'? Existing literatures on framing argue that MCs, as policy entrepreneurs, utilize fields of public and official discourse available to them to manage conflict within the Congress. Current empirical research of MCs' public communications focuses on long-established and new mediums of communication. This project, however, is interested in a medium of communication available to MCs, but which has received scant attention: the short-titles of legislation they sponsor. Using network analysis of a database of all legislation containing the word 'Internet' from 1994 to 2009 (N=1,170), this project finds that certain terms co-occur more frequently than others, and that the overall structure of co-occurrence demonstrates a coherent deployment of language by MCs along two dimensions: the *protection* and *administration* of society.

Keywords: Internet, legislation, network analysis, language, Congress

Extended Abstract

This project seeks to answer the following question: What can we learn about how Members of Congress (MCs) frame the regulation and uses of the Internet by analyzing how they entitle legislation they sponsor that contains the word 'Internet'?

Existing literatures on framing argue that MCs, as policy entrepreneurs, utilize fields of public and official discourse (i.e., press releases, policy papers, floor statements) available to them to manage conflict within the Congress and, ultimately, to help pass or defeat legislation. This literature also argues that such framing activity is effective, and can be used strategically to maintain or to change the congressional (or broader political) conflict environment (Baumgartner & Jones 1993; De Boef et al. 2005). In other words, there is a strong incentive on the part of MCs to choose their words wisely.

Some of the earlier research on MCs' official oratory dates to the mid-20th century, when scholars looked to understand the dynamics of congressional floor debates: who speaks, about which topics, and why (Lehnen 1967). The main thrust of some of this research line focused, later, on applying psycholinguistic research to the analysis of a random selection of floor debate topics in the U.S. Senate, in an attempt to uncover the psychological and ideological orientations of senators (Tetlock 1981).

More current empirical analyses of MCs' public communications are divided into two main types: those that focus on mediated methods of communication (e.g., television, radio, newspapers) and those that focus on directed methods (e.g., postal mail, personal appearances, web sites; Lipinski 2004). Analyses of the latter have become increasingly easy to perform, given technological evolution; much current research utilizes databases (e.g., the Congressional Record), social-networking services (e.g., Twitter; Mergel 2012), or other online sources (see Golbeck et al. 2010).

The instant research project, however, is interested in a directed method of communication

available to MCs, but which has received scant attention: the short-titles of legislation they sponsor. The content of this field, like the floor speeches that figure in previous research, is entirely at the discretion of the MC, and the pithy and often clever titles employed demonstrate a high level of thought. For example, following the terrorist attacks of September 11, 2001, the Congress passed and the President signed the USA PATRIOT Act[1], of which the short-title was: "Uniting and Strengthening America by Providing Appropriate

Tools Required to Intercept and Obstruct Terrorism Act of 2011." Those who work in, or cover the Congress or the state legislatures, will recognize this behavior as commonplace.

This project also advocates a new and as-yet exploratory methodological approach to gain purchase not on how *individual* MCs are influencing how the public and their colleagues with the words they choose to entitle bills pertaining in some way to the Internet, but instead on the overall *structure* of terms employed in each Congress (i.e., the two-year term that serves as a temporal and legislative boundary between different congressional sessions). This is done by employing network-analysis methodology, which focuses not on "attributes of autonomous individual units… [but instead] on properties of the social (economic or political) structural environment, and how these structural properties influence observed characteristics" (Wasserman & Faust 1994).

Network analysis has been used in many settings, with the "Deep South" study being an early exemplar (Davis et al. 1941). That study looked at how individual membership in social circles constituted an overall class-caste system. It did so – like all two-mode network analysis – by focusing on individual units (here, people) and the groups to which they belong (here, social circles). Resulting network maps illustrate very well the connections between the units, in the context of the underlying social structures.

The research presented here focuses on individuals and groups, but with a slightly different focus. It looks at the *words* in the short-titles (i.e., individuals) and the *Congresses* (i.e., groups) in which they occur. For the period from 1994 to 2009[2], there were a total of 1,170 pieces of legislation the full-text of which contained the term 'Internet.'[3] This produced a database from which one can ascertain the most common words for each Congress. The resulting network map illustrates the relationship between those words and the underlying legislative structures.

There are several benefits to this research methodology. First, as mentioned above, we can focus on the relationships between terms: do certain terms tend to co-occur more frequently than others? Second, this co-occurrence allows us to ask key political scientific questions: if terms do tend to co-occur, to which political factors should we turn to explain it? Third, two-mode analysis allows us to look at how the Congresses help structure the overall discursive structure, or dominant vocabulary, that comes to define the debate over the Internet.

Prior to reviewing two key findings, it is worth noting that there has not yet been a network map that allows those who are interested in this research field to view the underlying structures described above. Since the research methodology is largely exploratory, its novelty will hopefully give rise to questions which have not yet been asked, and link research fields which have not yet been linked.

Beyond this, there are two key findings, which the poster will highlight and support with network maps and analysis.

First, there are instances where the dominant vocabulary is the same across Congresses controlled by different parties (Figure 1). This provides early evidence that the Internet might not be a topic that conforms to widely supported political science literature on the polarization of conflict within the Congress (Layman & Carsey 2002). Further research could focus on whether the underlying discursive structures are impacted by the party and/or ideological group to which the MC belongs.

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[1] 115 Stat. 272 (2001).

[2] This time period comprises the 104th to the 110th Congresses. The start-date was determined based on the fact that the Internet was opened, by congressional action, to commercial traffic in 1993. The 104th Congress was therefore the first Congress to be able to treat the Internet as a resource for whatever means its members saw fit.

[3] Although the network analysis was conducted only on words in the short-titles, the database was constructed by searching the entire body (i.e., the full text) of legislation during the time period concerned.
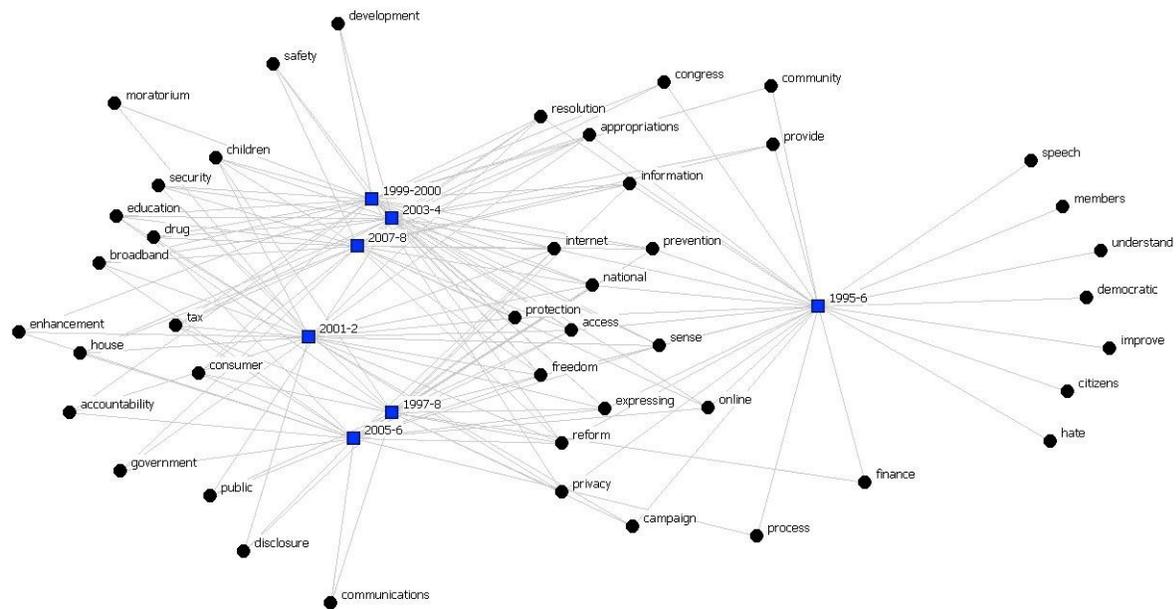
Figure 1. Two-mode analysis of the most-frequently occurring terms and the Congresses (two-year legislative terms) in which they occurred. Terms and Congresses that clump together are closer together in terms of network cohesiveness, indicating co-occurrence and centrality to the overall explanation of how the discursive network hangs together.

Second, using statistical information resulting from network analysis, there is a linguistic structure that becomes apparent. Short-titles of bills analyzed tend to break along two key discursive axes: (1) MCs focus on how to *protect* society, which provides empirical support for existing literature on how early responses to new technologies are often based on fear of that technology; and (2) MCs also focus on using the Internet to *reform* or *administer* government and society (Figure 2). This discursive tension could give rise to further research on how political culture can help shape the responses of a society and/or polity to a new technology.

This research, while somewhat exploratory in nature, looks to break some new substantive and methodological ground. It expands upon and brings together diverse research lines, such as congressional behavior and communication; partisan and ideological structures; discourse analysis; and social studies of technology. As such, it is offered up as an opportunity to provoke interdisciplinary discussion and promote inquiry into a key field of official communication that has not often been targeted as such.
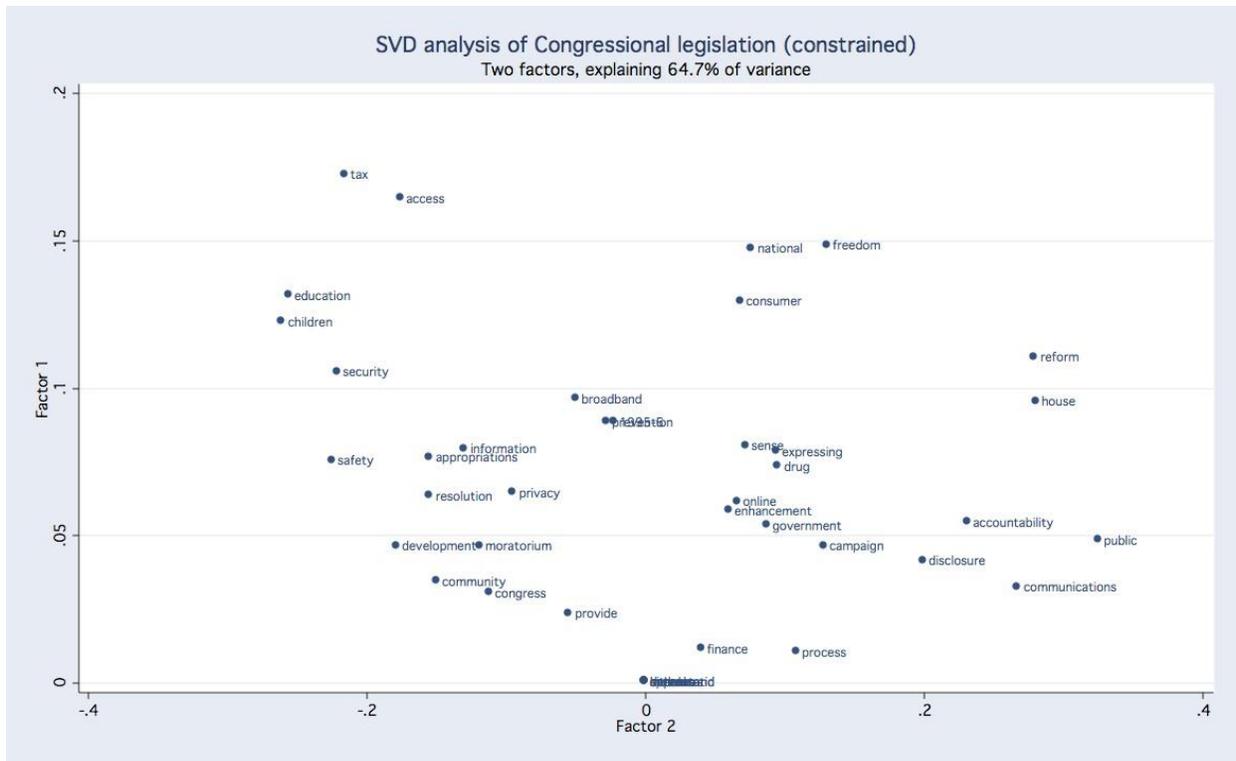
Figure 2. Singular value decomposition analysis of the most-frequently occurring terms, showing two factors which explain 64.7% of variance.

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