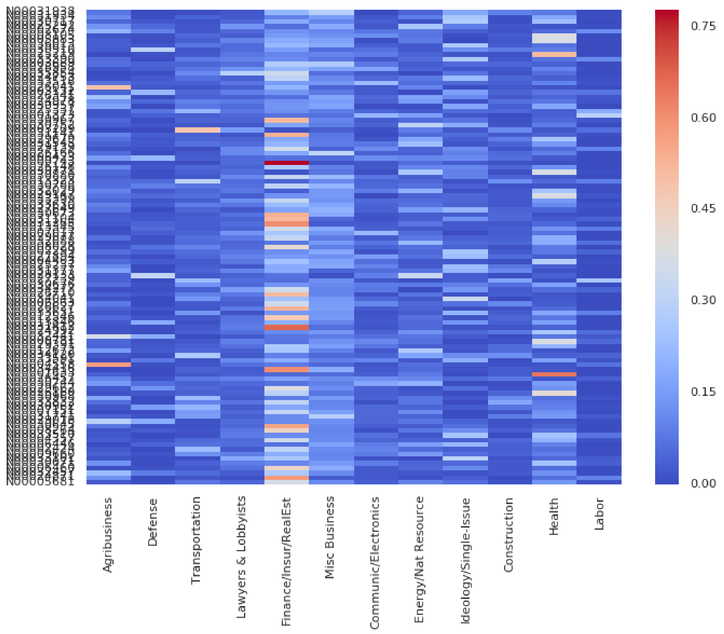
Predicting Political Ideology Using Campaign Finance Data

Keri A. McKiernan and Joe Napoli

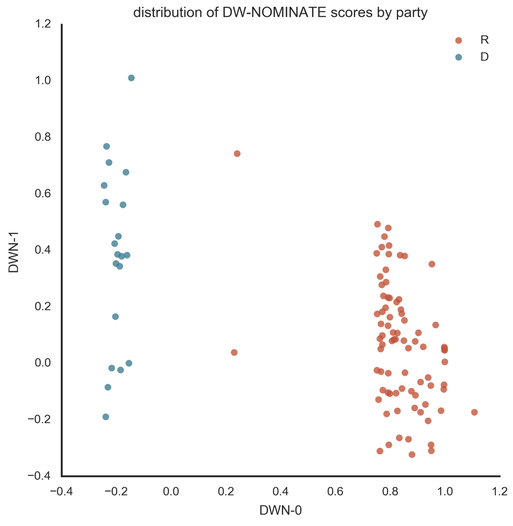
Department of Chemistry, Stanford University

Background

The research of Poole and Rosenthal has focused on quantifying the political ideology of politicians [3]. In particular, they actively develop methods for calculating 'ideal points' of candidates. The DW-NOMINATE method calculates a legislators overall probability of voting 'yea' on a piece of legislation as the sum of a deterministic utility value and a random error [1]. 'Ideal point' coordinates were obtained for legislators by maximizing the log likelihood function



where P_{ijtt} is the probability of voting for choice τ (yes or no) and C_{ijtt} = 1 if that probability accurately predicts the vote [1]. Indexes j, i, and t sum over roll call votes, legislators, and legislative sessions, respectively. Ideal points are constrained to lie within the interval [−1, 1] and are two-dimensional quantities. A common interpretation of the first coordinate is that it reflects the divide between the Republican and Democratic parties, whereas the second coordinate is more highly correlated with intra-party division. While a full congressional voting record would be unavailable for candidates who are new to office, campaign finance data are often readily available. It would be useful to be able to predict the ideal point of a candidate even before they have established a congressional voting record. Furthermore, the ability to do so would help elucidate a relationship between monetary contributions to candidates and the voting patterns those contributions may effect.



References