

Supplemental Appendix Describing Agency Ideology Estimates:

Jowei Chen and Tim Johnson, 2014. "Federal Employee Unionization and Presidential Control of the Bureaucracy: Estimating and Explaining Ideological Change in Executive Agencies." *Journal of Theoretical Politics*, Volume 27, No. 1: 151-174.

In the originally published version of this article, Section 4.2 introduces our Common Space score estimates for US federal agencies. However, we neglected to fully describe all of the methodological steps we took to estimate these Common Space scores. In this Supplemental Appendix, we provide the full campaign contribution data and computer code that produce each agency's Common Space score reported in our original article, and we describe each step of this estimation process.

Each agency's Common Space score was estimated using the following steps:

- 1) We first identified all campaign contributions made by self-identified employees of the federal agency. In this data, we included contributions made to all recipients, including those who were not federal officeholders (eg, challengers who were never elected and PACs). Furthermore, note that throughout this estimation process, we only use contributions made by self-identified federal agency employees. We do not make use of contributions from individuals who never worked in a federal agency.
- 2) Using data from Bonica (2013), we identified the Common Space score for each federal officeholder (eg, a US President, US Senator, or US House member) who received such campaign contributions from these agency employees.
- 3) For each agency employee, we calculated the mean Common Space scores of federal officeholders who received contributions from the employee, weighted by the dollar amount of each contribution (Hereafter, we refer to this calculation as the "mean Common Space score of federal officeholders who received contributions from the agency employee," or MCSOE for short). An agency employee who never made contributions to a federal officeholder has no MCSOE calculated by Step 3.
- 4) Recipients of campaign contributions who never served in federal office (eg, challengers who were never elected and PACs) obviously do not have a Common Space score from serving in office. For each recipient of campaign contributions who never served in federal office (eg, challengers who were never elected and PACs), we calculated the mean MCSOE (as calculated in Step 3) of their federal agency-employed campaign contributors, weighted by the dollar amount of each contribution. In other words, for recipients who never served in federal office, we calculated a Common Space score by considering the Common Space scores of the federal officeholders to whom their agency-employed campaign contributors had given money. Note that Step 4 is not used for federal officeholders, who already have a Common Space score (from Step 2).

5) The estimation process then calculated each federal agency's Common Space score by considering all campaign contributions from agency employees who listed an agency as their employer. Each agency's Common space score was calculated as the mean Common Space score associated with the contribution, weighted by the dollar amount of each contribution. For contributions by an agency employee to a federal officeholder, the Common Space score associated with the contribution was simply the federal employee's MCSOE, as calculated in Step 3. For contributions by an agency employee without a MCSOE from Step 3, the Common Space score associated with the contribution was based on the Step 4 calculations, which were, in turn, calculated from the MCSOE of federal employees who contributed to that recipient. However, note that if an agency employee with a MCSOE from Step 3 makes a contribution to a recipient who never served in federal office, the Common Space score associated with the contribution was simply the contributor's MCSOE.

In summary, all agency-level Common Space score estimates were derived, through these various steps, from federal employees' MCSOE, as calculated in Step 3. In this way, the agency-level Common Space scores were therefore ultimately derived, through these various steps, using the Common Space score of federal officeholders who received campaign contributions from federal agency employees.

Campaign contributions for federal agency employees:

<https://public.websites.umich.edu/~jowei/AgencyIdeology/conts.txt>

R code used to calculate each agency's Common Space score using campaign contribution records:

https://public.websites.umich.edu/~jowei/AgencyIdeology/Supplemental_Appendix_Code.R

Agency-level files campaign contribution records used for each individual agency's Common Space score calculations:

<https://public.websites.umich.edu/~jowei/AgencyIdeology/AllAgencyFiles.zip>