## Appendix. Elite Perceptions of Agency Ideology and Workforce Skill

**Section 1. Survey Details**

The *Survey on the Future of Government Service* (SFGS) used the Leadership Federal Government Premium database, a commercial online database of federal government employees published by Leadership Directories, Inc., to obtain contact information for the target population. The survey was in the field from August 14, 2014 to December 15, 2014. The research team sent respondents invitations to take the survey by regular mail and email when available. Email addresses were available for 79 percent of the target population. The database also provided details about appointment authority (presidential appointee with Senate confirmation, appointee without Senate confirmation, non-career member of the Senior Executive Service, career member of the Senior Executive Service, Schedule C appointee, member of the Senior Foreign Service, or career civil servant).

Respondents could select their workplace from a list of 155 agencies within the executive departments, 66 independent agencies, and 7 agencies within the Executive Office of the President. The SFGS used the *Sourcebook of United States Executive Agencies* to create the list of workplaces.[1] The SFGS identified agencies in the Executive Office of the President using Table 1 from the *Sourcebook* and excluded the Executive Residence, Office of Administration, and White House Office. The

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[1]https://www.acus.gov/sites/default/files/documents/Sourcebook%202012%20FINAL_May%20 2013.pdf.

SFGS identified prominent bureaus and agencies within executive departments using Table 2. Table 5 was the source for agencies outside the executive departments. The SFGS omitted scholarship agencies, regional agencies, and non-profits and cooperatives. The research team made additional limited adjustments to this list based on which agencies the team wanted to be able to analyze separately from the executive departments as a whole.

Asking respondents to assess the ideology of the 228 agencies they could select as their workplace would likely have resulted in too few assessments of some agencies to generate reliable estimates of perceived agency ideology. Therefore, the SFGS selected a subset of the agencies from the list of workplaces for respondents to evaluate. Specifically, the SFGS selected agencies within executive departments that have at least 1,000 employees, all agencies within the Executive Office of the President, and independent agencies with at least 200 employees. The number of employees per agency was determined using the Office of Personnel Management FedScope Employment Data Cube as of December 2013. The research team adjusted the list to include agencies that did not meet the employment criteria but that are substantively interesting (e.g., the Office of Legal Counsel in the Department of Justice).[2] Respondents also evaluated the 15 executive departments as a whole.

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[2] FedScope data do not include the Board of Governors of the Federal Reserve, Central Intelligence Agency, Office of the Director of National Intelligence, Tennessee Valley Authority, or the U.S. Postal Service. Additionally, data were only available for the Department of State as a whole and, within the Department of Energy, employment data were only available for the Federal Energy Regulatory Commission. The research team retained all agencies from the full list of workplaces for the Department of State and the Department of Energy.

The survey was offered online and on paper.[3] Respondents to the online version of the survey were asked to evaluate the ideology of eight agencies including the Office of Management and Budget, the Office of Personnel Management, and the agencies the respondent reported working with the most (respondents could select at most three). Three additional agencies were selected randomly. The survey asked respondents who reported working in an executive department to evaluate two randomly selected agencies from the executive department in which they work. The survey filled the remaining empty slots, including cases were a respondent selected less than three agencies that they work with often, with a randomly selected agency from the list of the independent agencies and the 15 executive departments. The paper survey asked respondents to rate 5 agencies - the Office of Management and Budget, the Office of Personnel Management, and the three agencies the respondent reported working with the most. The survey did not allow respondents, excluding respondents that work in the Office of Management and Budget and the Office of Personnel Management, to rate the agency in which they work. Respondents could rate the executive department in which they work.

Concern that estimates of the ideology of OMB and OPM will be biased by evaluation by employees that work for the agency is limited by the small proportion of raters who work for each agency. Seven out of 1,379 ratings of OMB and 6 out of 1,192 ratings of OPM were given by

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[3] Of the 3,551 respondents, 586 took the paper version of the survey. Nineteen respondents submitted both the online and paper surveys. The research team took the earlier completed response for each question in these cases, and these cases are not counted in the 586 respondents that took the paper survey. One respondent who answered both surveys evaluated 9 agencies. Respondents to the online survey were asked the policy views question with probability two-thirds. All respondents to the paper survey were asked the policy views question.

employees of each agency. We do not consider ratings of employees of either agency as "informed"

ratings.

Of the respondents who evaluated agency ideology and provided their tenure in public

service, seventy-five percent of respondents had at least 14 years of work experience with the federal

government, and 50% had at least 25 years. Similarly, 75% of these respondents had at least five

years of experience at their current agency, and 50% had at least 14 years of experience. These long

tenures with the federal government and with the same agency give respondents the breadth of

experience necessary to evaluate agency ideology across administrations.[4]

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[4] Table A.2 (at the end of this appendix) provides the number of ratings per agency and the

proportion of ratings provided by those respondents who reported that they work frequently with

that agency.

**Section 2. Screen Shots of Relevant Survey Questions**

Figures A.1, A.2, and A.3 provide screenshots of the relevant questions from the online survey. Respondents to the online survey could select continuous values from 1 to 5 or "Don't know." Respondents to the paper survey could select integers from 1 to 5, which we treat as continuous in the measurement model, or "Don't know."

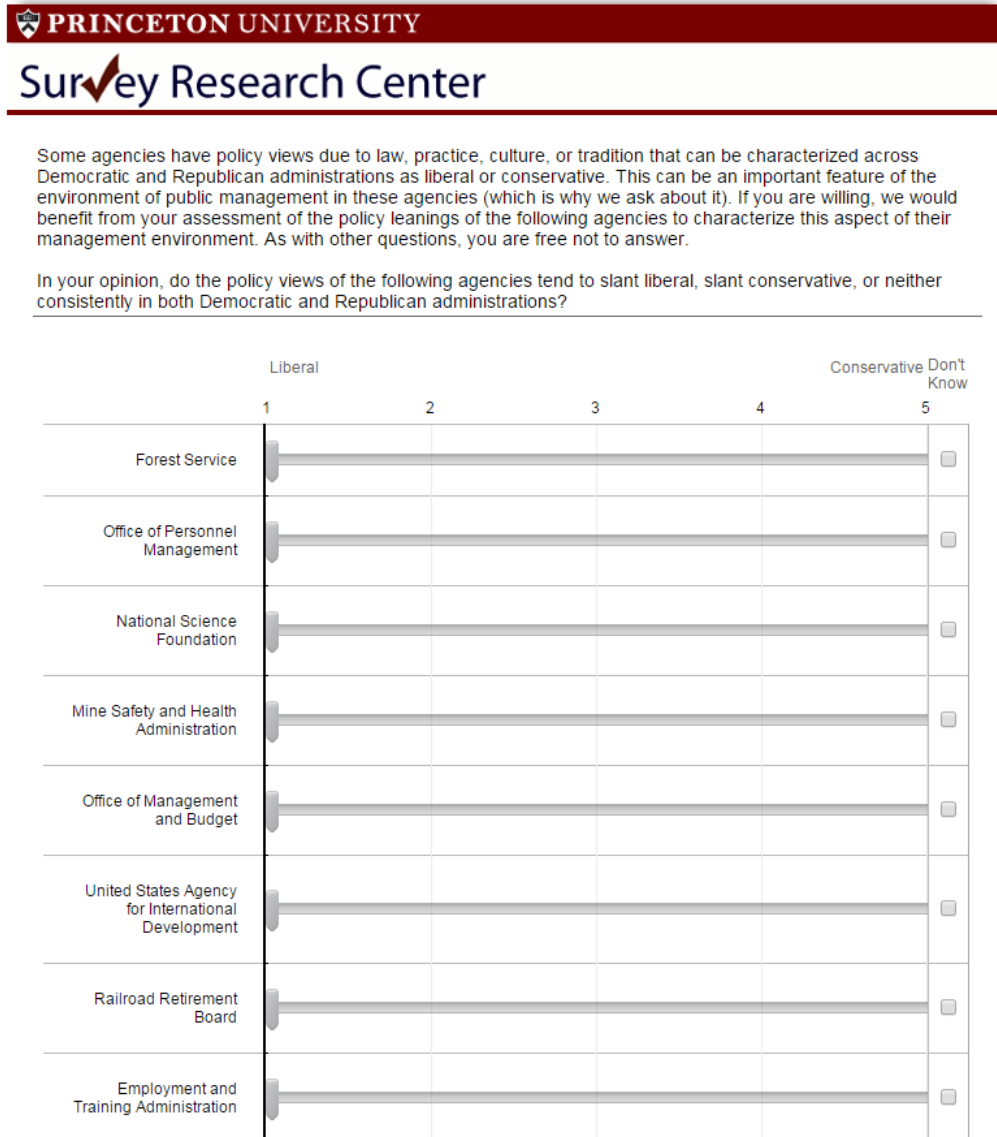**Figure A1. Screen Shot of (Online) Agency Policy Views Question**

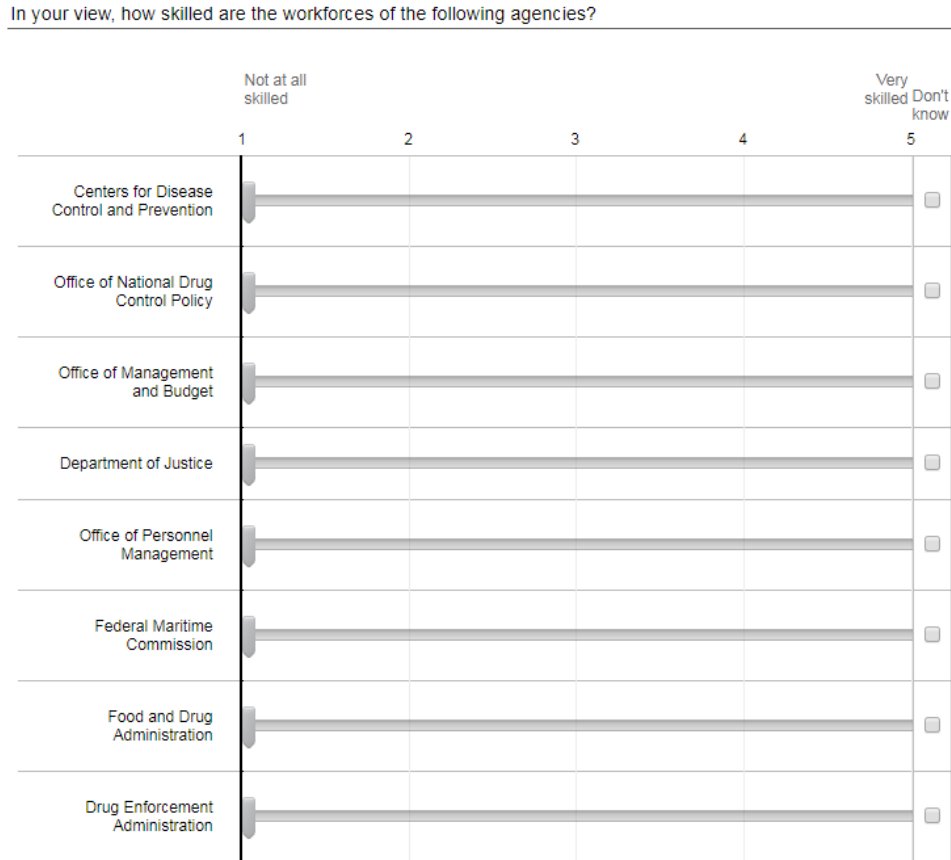## Figure A.2: Screen Shot of (Online) Agency Skill Question



## Figure A.3: Question about Which Agencies Respondents Work with Most

## Section 3: Bayesian Multi-rater Item Response Model

Let $X$ be the M × N ratings matrix with element $y_{ij}$ denoting agency $i's$ rating by respondent $j$. We restrict the data to those respondents who rated at least three agencies and those agencies with at least five ideology ratings, resulting in $M = 165$ and $N = 1,572$. Because respondents rate at most eight agencies, there are only 8,474 non-missing elements in $X$. Of the 1,572 respondents, 1,298 rated OMB, 1,147 rated OPM, 1,093 rated both OMB and OPM, and 220 rated neither OMB nor OPM. The numbers above are for the evaluations of agency ideology. See section 7 for the analogous number for the evaluations of agency skill.

We assume each rating of agency $i$ by respondent $j$ is a function of the agency's true ideology and that $y_{ij} \sim N(\alpha_j + \beta_j x_i, \sigma_i^2)$, where $x_i$ is the true ideology of the agency. This response model allows each respondent to have a unique mapping from her perception of agency ideology to her use of the survey scale. The intercept term, $\alpha_j$, denotes the ideology respondent $j$ assigns to an agency with latent ideology of $x_i = 0$. This parameter allows location shifts in the mapping from $x_i$ to $y_{ij}$ across respondents. This would occur if respondents interpret the meaning of "slants liberal" differently, for example. The parameter $\beta_j$ allows the relationship between the scale of $x_i$ and $y_{ij}$ to vary across respondents. Intuitively, $\beta_j$ allows for differences in how respondents use the response scale to evaluate agency ideology. In terms of actual ideology, respondents may perceive the meaning of the difference between "slants liberal" and "slants conservative" differently due to differences in their locations in the executive branch, work experiences, or policy network.

We used informed priors to give additional weight to the collective perception of respondents who work with each agency more frequently. Formally, we assume $x_i \sim N(\mu_i, \gamma_i^2)$, where $\mu_i$ is the mean of the ratings by respondents that work with agency $i$ and $\gamma_i^2$ is the variance

associated with that mean. Let $y_{in}$, where $n = 1, 2, 3, \ldots, N$, denote the $N$ informed ratings of agency

$i$. Then: $u_i = \frac{1}{N} \sum_{n=1}^{N} y_{in}$ and $\gamma_i^2 = \frac{1}{N} \sum_{n=1}^{N} s_i^2$, where $s_i^2 = \frac{1}{N-1} \sum_{n=1}^{N} (y_{in} - \mu_i)^2$. Note that we

used all informed raters that provided a response, not only those raters that rated at least three

agencies, to calculate the mean and variance we used as priors. For agencies that have no informed

ratings, we set $\mu_i = 2.5$, the midpoint of the scale. For agencies with less than five informed ratings,

we set $\gamma_i^2 = 100$ to prevent a few ratings with low variance from creating a spike prior distribution.

Specifying uninformed priors for the remaining parameters completes the measurement model.[5]

We used JAGS 4.2.0 via the runjags package using R 3.3.0 to estimate the model with

informed priors. The model proved to be "slow mixing" and thus required a rather long model run.

Two chains were estimated with over-dispersed start values for the latent traits (one chain was

started with all latent traits equal to one, i.e. liberal, and the other chain was started with all latent

traits equal to five, i.e., conservative). After 10,000 adaptive iterations to improve sampling

efficiency, we ran each chain for 5,000,000 iterations thinned by 500 with the first 3,000,000

iterations discarded as "burn-in." This left 8,000 observations (4,000 from each chain) for inference.

Diagnostics indicated the MCMC chains converged. Estimates of ideology were post-processed

iteration-by-iteration to be distributed N(0,1). Informed priors determined the direction of the scale.

Figure A4 plots the bivariate relationships between the estimates of perceived agency

ideology and the standard deviation of the estimates with and without the informed priors on

perceived agency ideology. A model run identical to the one described above was used to estimate

perceived agency ideology using uninformed priors. The prior on perceived agency ideology for this

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[5] The prior distributions for the remaining parameters are: $\alpha_j \sim N(0, 100)$, $\beta_j \sim N(0, 100)$, and

$\sigma_i^2 \sim U[0, 100]$.

model was N(0,1). The direction of the scale was set to match the direction of the scale from the

model using informed priors. The plot shows that there is little difference between the informed and

uninformed estimates as demonstrated by few estimates deviating from the 45-degree line. The

correlation between the estimates is 0.99. The plot of standard deviations shows that, as expected,

the estimates with informed priors are more precise than estimates without uninformed priors,

except for the Energy Information Administration (EIA) in the Department of Energy. We assigned

the EIA a very diffuse informed prior (variance of 100) because it has less than five informed ratings

while the variance we used for the uninformed prior is one. This resulted in a loss of precision.

**Figure A4. Comparison of Perceived Ideology Estimates with and without Informed Priors**
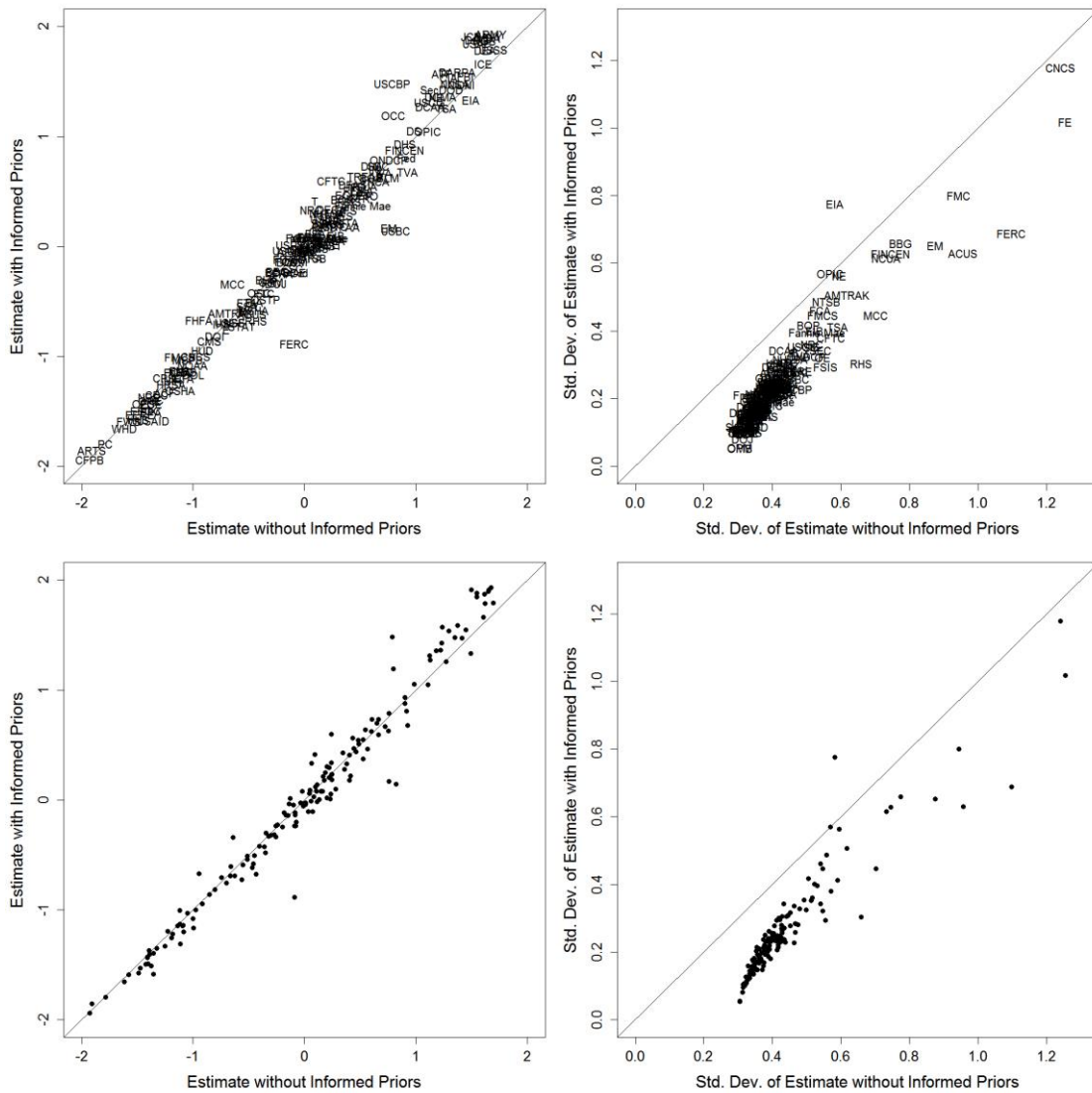


Note: Plots include a 45-degree line.

## Section 4: Estimates of Perceived Agency Ideology

### Figure A5. Estimates of Perceived Agency Ideology



Estimate of Perceived Agency Ideology
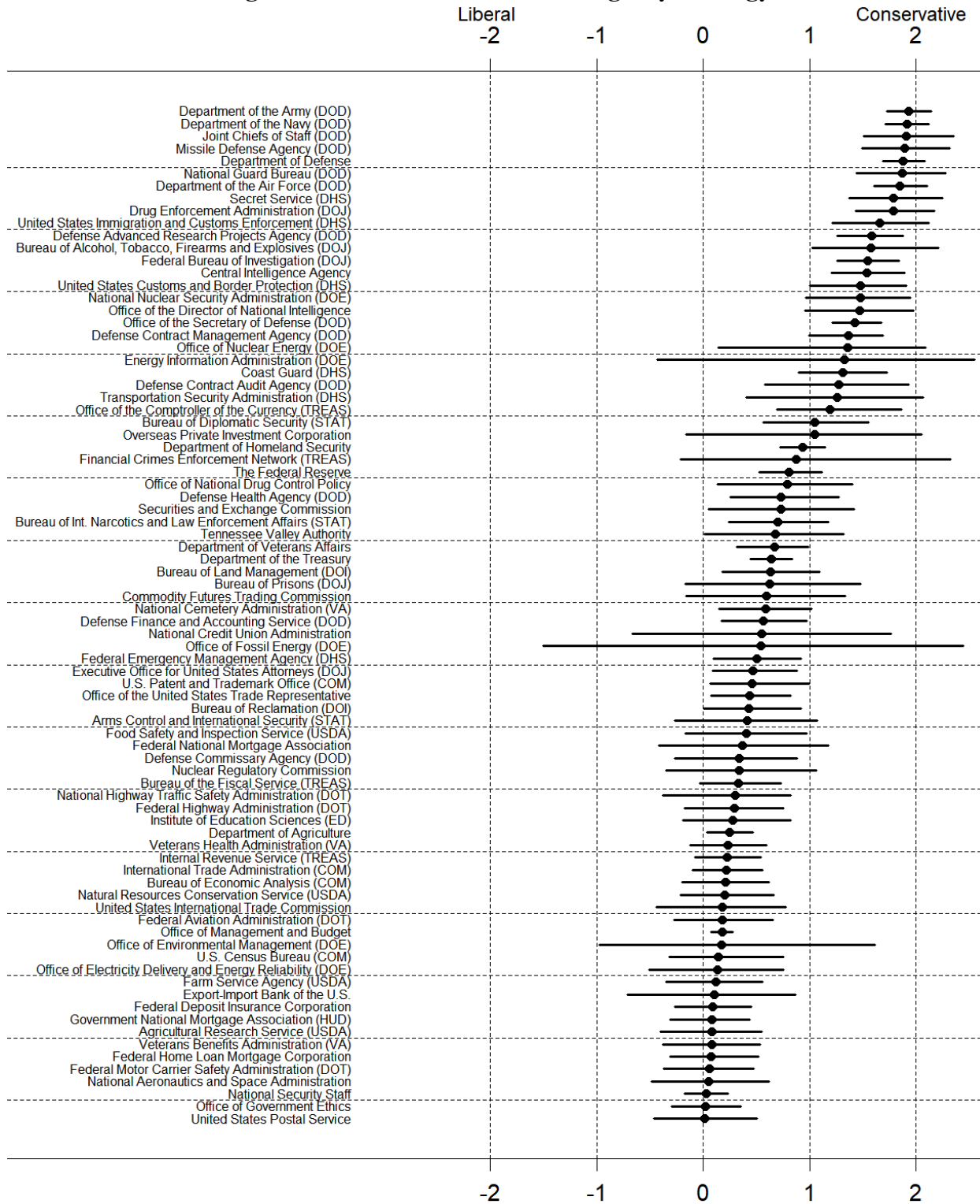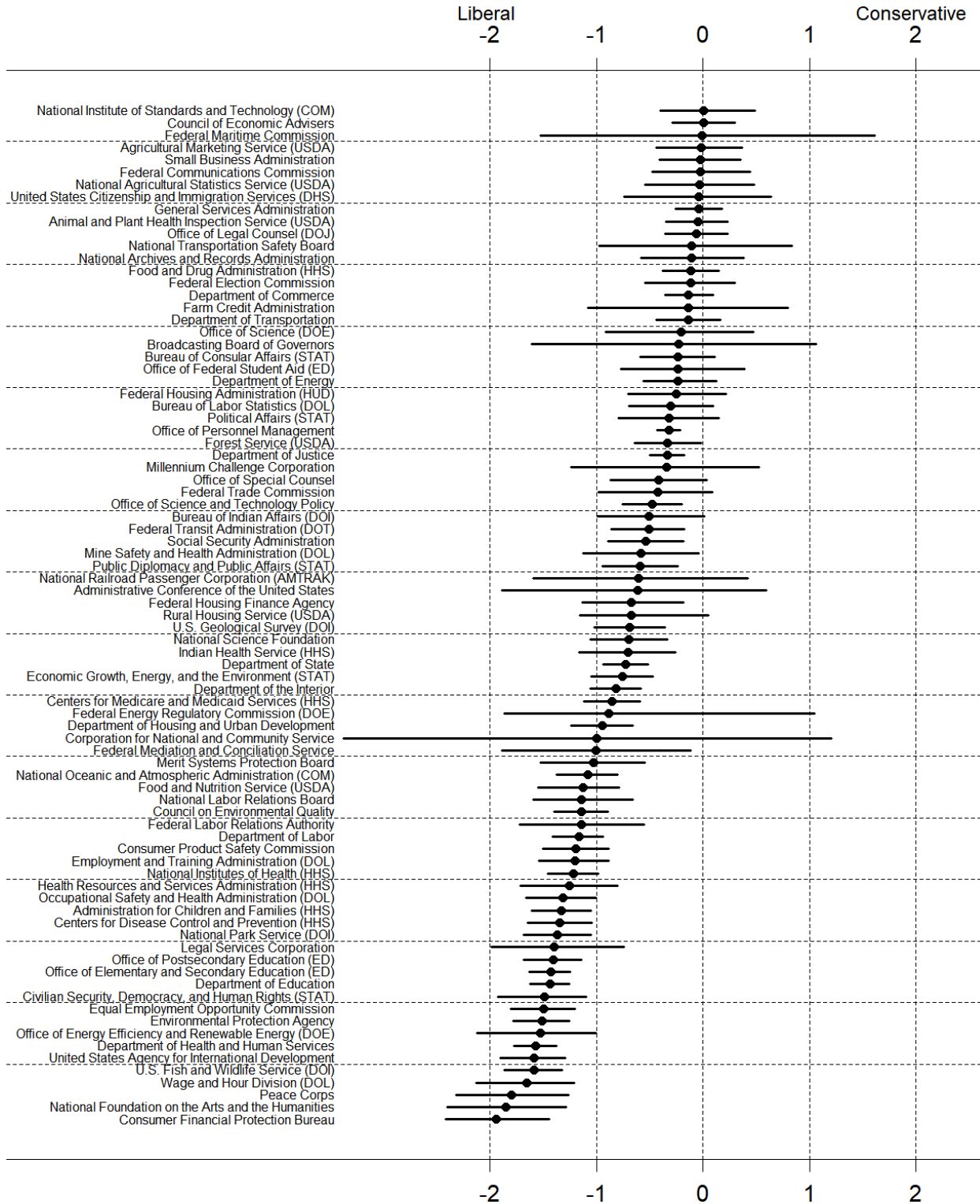
Estimate of Perceived Agency Ideology

Note: Lines denote 95% region of highest posterior density. We post-processed the simulation output iteration-by-iteration to constrain the estimates of perceived agency ideology to be distributed N(0,1) and we allow the priors on perceived agency ideology to set the direction of the scale.

## Table A1. Estimates of Perceived Agency Ideology

| Agency | Perceived Ideology Estimate | Standard Deviation | 95% Lower Bound | 95% Upper Bound |
|---|---|---|---|---|
| Administration for Children and Families (HHS) | -1.33 | 0.14 | -1.61 | -1.05 |
| Administrative Conference of the United States | -0.62 | 0.63 | -1.89 | 0.60 |
| Agricultural Marketing Service (USDA) | -0.02 | 0.20 | -0.44 | 0.37 |
| Agricultural Research Service (USDA) | 0.08 | 0.24 | -0.40 | 0.55 |
| Animal and Plant Health Inspection Service (USDA) | -0.05 | 0.15 | -0.35 | 0.23 |
| Arms Control and International Security (STAT) | 0.41 | 0.34 | -0.27 | 1.07 |
| Broadcasting Board of Governors | -0.23 | 0.66 | -1.61 | 1.06 |
| Bureau of Alcohol, Tobacco, Firearms and Explosives (DOJ) | 1.57 | 0.31 | 1.02 | 2.22 |
| Bureau of Consular Affairs (STAT) | -0.24 | 0.18 | -0.59 | 0.11 |
| Bureau of Diplomatic Security (STAT) | 1.05 | 0.25 | 0.57 | 1.55 |
| Bureau of Economic Analysis (COM) | 0.21 | 0.21 | -0.20 | 0.62 |
| Bureau of Indian Affairs (DOI) | -0.50 | 0.26 | -0.99 | 0.01 |
| Bureau of Int. Narcotics & Law Enforcement Affairs (STAT) | 0.70 | 0.24 | 0.24 | 1.18 |
| Bureau of Labor Statistics (DOL) | -0.30 | 0.20 | -0.70 | 0.10 |
| Bureau of Land Management (DOI) | 0.63 | 0.23 | 0.18 | 1.09 |
| Bureau of Prisons (DOJ) | 0.62 | 0.42 | -0.17 | 1.48 |
| Bureau of Reclamation (DOI) | 0.43 | 0.23 | 0.00 | 0.92 |
| Bureau of the Fiscal Service (TREAS) | 0.33 | 0.19 | -0.03 | 0.73 |
| Centers for Disease Control and Prevention (HHS) | -1.35 | 0.15 | -1.65 | -1.05 |
| Centers for Medicare and Medicaid Services (HHS) | -0.86 | 0.14 | -1.12 | -0.59 |
| Central Intelligence Agency | 1.54 | 0.17 | 1.21 | 1.90 |
| Civilian Security, Democracy, and Human Rights (STAT) | -1.49 | 0.21 | -1.93 | -1.09 |
| Coast Guard (DHS) | 1.31 | 0.21 | 0.90 | 1.73 |
| Commodity Futures Trading Commission | 0.60 | 0.38 | -0.16 | 1.33 |
| Consumer Financial Protection Bureau | -1.94 | 0.24 | -2.42 | -1.45 |
| Consumer Product Safety Commission | -1.19 | 0.16 | -1.50 | -0.89 |
| Corporation for National and Community Service | -1.00 | 1.18 | -3.38 | 1.21 |
| Council of Economic Advisers | 0.00 | 0.15 | -0.29 | 0.30 |
| Council on Environmental Quality | -1.14 | 0.13 | -1.40 | -0.89 |
| Defense Advanced Research Projects Agency (DOD) | 1.59 | 0.16 | 1.26 | 1.88 |
| Defense Commissary Agency (DOD) | 0.34 | 0.29 | -0.27 | 0.88 |
| Defense Contract Audit Agency (DOD) | 1.27 | 0.34 | 0.58 | 1.93 |
| Defense Contract Management Agency (DOD) | 1.36 | 0.18 | 0.99 | 1.69 |
| Defense Finance and Accounting Service (DOD) | 0.56 | 0.20 | 0.17 | 0.97 |
| Defense Health Agency (DOD) | 0.73 | 0.26 | 0.25 | 1.27 |
| Department of Agriculture | 0.25 | 0.11 | 0.04 | 0.47 |
| Department of Commerce | -0.13 | 0.12 | -0.36 | 0.10 |
| Department of Defense | 1.88 | 0.10 | 1.69 | 2.08 |
| Department of Education | -1.44 | 0.09 | -1.63 | -1.25 |

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|---|---|---|---|---|
| Department of Energy | -0.24 | 0.17 | -0.56 | 0.13 |
| Department of Health and Human Services | -1.57 | 0.10 | -1.77 | -1.38 |
| Department of Homeland Security | 0.93 | 0.11 | 0.73 | 1.14 |
| Department of Housing and Urban Development | -0.95 | 0.15 | -1.24 | -0.66 |
| Department of Justice | -0.34 | 0.08 | -0.50 | -0.18 |
| Department of Labor | -1.17 | 0.12 | -1.41 | -0.94 |
| Department of State | -0.72 | 0.11 | -0.94 | -0.52 |
| Department of the Air Force (DOD) | 1.85 | 0.13 | 1.61 | 2.10 |
| Department of the Army (DOD) | 1.93 | 0.11 | 1.73 | 2.14 |
| Department of the Interior | -0.82 | 0.12 | -1.06 | -0.58 |
| Department of the Navy (DOD) | 1.91 | 0.10 | 1.71 | 2.12 |
| Department of the Treasury | 0.64 | 0.10 | 0.44 | 0.84 |
| Department of Transportation | -0.14 | 0.15 | -0.44 | 0.17 |
| Department of Veterans Affairs | 0.67 | 0.17 | 0.32 | 0.99 |
| Drug Enforcement Administration (DOJ) | 1.79 | 0.19 | 1.43 | 2.17 |
| Economic Growth, Energy, and the Environment (STAT) | -0.76 | 0.15 | -1.05 | -0.47 |
| Employment and Training Administration (DOL) | -1.20 | 0.17 | -1.54 | -0.88 |
| Energy Information Administration (DOE) | 1.33 | 0.78 | -0.43 | 2.55 |
| Environmental Protection Agency | -1.51 | 0.13 | -1.78 | -1.25 |
| Equal Employment Opportunity Commission | -1.50 | 0.15 | -1.81 | -1.20 |
| Executive Office for United States Attorneys (DOJ) | 0.47 | 0.20 | 0.09 | 0.89 |
| Export-Import Bank of the U.S. | 0.10 | 0.40 | -0.71 | 0.87 |
| Farm Credit Administration | -0.14 | 0.46 | -1.08 | 0.80 |
| Farm Service Agency (USDA) | 0.12 | 0.23 | -0.35 | 0.56 |
| Federal Aviation Administration (DOT) | 0.18 | 0.24 | -0.28 | 0.66 |
| Federal Bureau of Investigation (DOJ) | 1.55 | 0.15 | 1.26 | 1.84 |
| Federal Communications Commission | -0.03 | 0.23 | -0.48 | 0.44 |
| Federal Deposit Insurance Corporation | 0.09 | 0.18 | -0.26 | 0.45 |
| Federal Election Commission | -0.12 | 0.21 | -0.54 | 0.30 |
| Federal Emergency Management Agency (DHS) | 0.51 | 0.21 | 0.09 | 0.92 |
| Federal Energy Regulatory Commission (DOE) | -0.88 | 0.69 | -1.87 | 1.05 |
| Federal Highway Administration (DOT) | 0.29 | 0.24 | -0.18 | 0.75 |
| Federal Home Loan Mortgage Corporation | 0.08 | 0.21 | -0.31 | 0.52 |
| Federal Housing Administration (HUD) | -0.25 | 0.23 | -0.70 | 0.21 |
| Federal Housing Finance Agency | -0.67 | 0.24 | -1.13 | -0.19 |
| Federal Labor Relations Authority | -1.15 | 0.30 | -1.72 | -0.55 |
| Federal Maritime Commission | -0.01 | 0.80 | -1.53 | 1.61 |
| Federal Mediation and Conciliation Service | -1.01 | 0.45 | -1.89 | -0.12 |
| Federal Motor Carrier Safety Administration (DOT) | 0.06 | 0.21 | -0.37 | 0.48 |
| Federal National Mortgage Association | 0.37 | 0.40 | -0.41 | 1.18 |
| Federal Trade Commission | -0.43 | 0.27 | -0.98 | 0.09 |
| Federal Transit Administration (DOT) | -0.51 | 0.17 | -0.87 | -0.18 |
| Financial Crimes Enforcement Network (TREAS) | 0.88 | 0.63 | -0.21 | 2.33 |

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|---|---|---|---|---|
| Food and Drug Administration (HHS) | -0.12 | 0.14 | -0.38 | 0.15 |
| Food and Nutrition Service (USDA) | -1.13 | 0.20 | -1.55 | -0.79 |
| Food Safety and Inspection Service (USDA) | 0.41 | 0.29 | -0.17 | 0.97 |
| Forest Service (USDA) | -0.33 | 0.16 | -0.64 | -0.02 |
| General Services Administration | -0.04 | 0.11 | -0.26 | 0.18 |
| Government National Mortgage Association (HUD) | 0.08 | 0.19 | -0.31 | 0.44 |
| Health Resources and Services Administration (HHS) | -1.26 | 0.23 | -1.71 | -0.80 |
| Indian Health Service (HHS) | -0.71 | 0.23 | -1.17 | -0.26 |
| Institute of Education Sciences (ED) | 0.28 | 0.25 | -0.19 | 0.82 |
| Internal Revenue Service (TREAS) | 0.23 | 0.16 | -0.08 | 0.54 |
| International Trade Administration (COM) | 0.22 | 0.17 | -0.10 | 0.56 |
| Joint Chiefs of Staff (DOD) | 1.91 | 0.21 | 1.51 | 2.36 |
| Legal Services Corporation | -1.40 | 0.31 | -1.98 | -0.74 |
| Merit Systems Protection Board | -1.03 | 0.25 | -1.53 | -0.55 |
| Millennium Challenge Corporation | -0.34 | 0.45 | -1.24 | 0.53 |
| Mine Safety and Health Administration (DOL) | -0.58 | 0.28 | -1.13 | -0.04 |
| Missile Defense Agency (DOD) | 1.90 | 0.21 | 1.49 | 2.32 |
| National Aeronautics and Space Administration | 0.05 | 0.28 | -0.49 | 0.62 |
| National Agricultural Statistics Service (USDA) | -0.03 | 0.26 | -0.55 | 0.48 |
| National Archives and Records Administration | -0.11 | 0.25 | -0.58 | 0.38 |
| National Cemetery Administration (VA) | 0.59 | 0.22 | 0.15 | 1.02 |
| National Credit Union Administration | 0.55 | 0.62 | -0.67 | 1.77 |
| National Foundation on the Arts and the Humanities | -1.85 | 0.28 | -2.40 | -1.29 |
| National Guard Bureau (DOD) | 1.87 | 0.21 | 1.44 | 2.28 |
| National Highway Traffic Safety Administration (DOT) | 0.30 | 0.32 | -0.38 | 0.82 |
| National Institute of Standards and Technology (COM) | 0.01 | 0.23 | -0.40 | 0.49 |
| National Institutes of Health (HHS) | -1.22 | 0.12 | -1.46 | -0.98 |
| National Labor Relations Board | -1.14 | 0.23 | -1.59 | -0.66 |
| National Nuclear Security Administration (DOE) | 1.48 | 0.25 | 0.96 | 1.95 |
| National Oceanic and Atmospheric Administration (COM) | -1.08 | 0.15 | -1.38 | -0.80 |
| National Park Service (DOI) | -1.37 | 0.16 | -1.68 | -1.05 |
| National Railroad Passenger Corporation (AMTRAK) | -0.61 | 0.51 | -1.60 | 0.42 |
| National Science Foundation | -0.69 | 0.19 | -1.06 | -0.33 |
| National Security Staff | 0.03 | 0.10 | -0.18 | 0.23 |
| National Transportation Safety Board | -0.11 | 0.49 | -0.97 | 0.84 |
| Natural Resources Conservation Service (USDA) | 0.20 | 0.22 | -0.21 | 0.66 |
| Nuclear Regulatory Commission | 0.34 | 0.36 | -0.35 | 1.07 |
| Occupational Safety and Health Administration (DOL) | -1.31 | 0.17 | -1.66 | -1.00 |
| Office of Electricity Delivery and Energy Reliability (DOE) | 0.14 | 0.32 | -0.51 | 0.75 |
| Office of Elementary and Secondary Education (ED) | -1.43 | 0.10 | -1.63 | -1.24 |
| Office of Energy Efficiency and Renewable Energy (DOE) | -1.53 | 0.28 | -2.12 | -1.00 |
| Office of Environmental Management (DOE) | 0.17 | 0.65 | -0.98 | 1.62 |
| Office of Federal Student Aid (ED) | -0.24 | 0.28 | -0.77 | 0.39 |

| | | | | |
|---|---|---|---|---|
| Office of Fossil Energy (DOE) | 0.54 | 1.02 | -1.51 | 2.44 |
| Office of Government Ethics | 0.02 | 0.17 | -0.30 | 0.35 |
| Office of Legal Counsel (DOJ) | -0.06 | 0.15 | -0.36 | 0.23 |
| Office of Management and Budget | 0.18 | 0.05 | 0.07 | 0.28 |
| Office of National Drug Control Policy | 0.79 | 0.32 | 0.14 | 1.40 |
| Office of Nuclear Energy (DOE) | 1.36 | 0.56 | 0.14 | 2.09 |
| Office of Personnel Management | -0.32 | 0.06 | -0.43 | -0.21 |
| Office of Postsecondary Education (ED) | -1.40 | 0.14 | -1.69 | -1.14 |
| Office of Science (DOE) | -0.20 | 0.35 | -0.92 | 0.47 |
| Office of Science and Technology Policy | -0.48 | 0.14 | -0.76 | -0.20 |
| Office of Special Counsel | -0.42 | 0.23 | -0.87 | 0.03 |
| Office of the Comptroller of the Currency (TREAS) | 1.19 | 0.30 | 0.70 | 1.86 |
| Office of the Director of National Intelligence | 1.47 | 0.26 | 0.96 | 1.98 |
| Office of the Secretary of Defense (DOD) | 1.43 | 0.12 | 1.21 | 1.67 |
| Office of the United States Trade Representative | 0.44 | 0.19 | 0.08 | 0.82 |
| Overseas Private Investment Corporation | 1.05 | 0.57 | -0.16 | 2.06 |
| Peace Corps | -1.80 | 0.27 | -2.32 | -1.27 |
| Political Affairs (STAT) | -0.32 | 0.24 | -0.79 | 0.15 |
| Public Diplomacy and Public Affairs (STAT) | -0.59 | 0.18 | -0.94 | -0.23 |
| Rural Housing Service (USDA) | -0.68 | 0.30 | -1.16 | 0.05 |
| Secret Service (DHS) | 1.79 | 0.22 | 1.37 | 2.25 |
| Securities and Exchange Commission | 0.73 | 0.34 | 0.05 | 1.42 |
| Small Business Administration | -0.03 | 0.19 | -0.41 | 0.35 |
| Social Security Administration | -0.54 | 0.18 | -0.89 | -0.19 |
| Tennessee Valley Authority | 0.68 | 0.33 | 0.01 | 1.32 |
| The Federal Reserve | 0.81 | 0.15 | 0.52 | 1.11 |
| Transportation Security Administration (DHS) | 1.26 | 0.41 | 0.41 | 2.07 |
| U.S. Census Bureau (COM) | 0.14 | 0.26 | -0.32 | 0.75 |
| U.S. Fish and Wildlife Service (DOI) | -1.59 | 0.14 | -1.87 | -1.32 |
| U.S. Geological Survey (DOI) | -0.69 | 0.17 | -1.02 | -0.36 |
| U.S. Patent and Trademark Office (COM) | 0.46 | 0.23 | 0.06 | 0.99 |
| United States Agency for International Development | -1.59 | 0.16 | -1.90 | -1.29 |
| United States Citizenship and Immigration Services (DHS) | -0.04 | 0.35 | -0.74 | 0.64 |
| United States Customs and Border Protection (DHS) | 1.48 | 0.23 | 1.01 | 1.91 |
| United States Immigration and Customs Enforcement (DHS) | 1.66 | 0.23 | 1.21 | 2.12 |
| United States International Trade Commission | 0.18 | 0.30 | -0.44 | 0.78 |
| United States Postal Service | 0.01 | 0.25 | -0.46 | 0.51 |
| Veterans Benefits Administration (VA) | 0.08 | 0.23 | -0.38 | 0.54 |
| Veterans Health Administration (VA) | 0.23 | 0.18 | -0.12 | 0.59 |
| Wage and Hour Division (DOL) | -1.66 | 0.24 | -2.13 | -1.21 |

**Section 5. Placing Perceived Agency Ideology Estimates on a Common Space**

One virtue of several existing approaches is their success producing estimates of agencies on a common scale with the preferences of political principals (Chen and Johnson 2015; Clinton et al. 2012). Usefully, the high correlation between the individual preferences of federal employees and our estimate of perceived agency ideology can be used to project our estimates onto a common space (Epstein et al. 2007; Shor and McCarty 2011). Specifically, we regress our executive-perception-based measure of policy leanings on the average ideology of career bureaucrats previously estimated on a common space with political principals by Clinton et. al. (2012). The resulting point estimates project our ideology estimate onto the common space – a useful exercise given how many more agencies our approach is able to locate relative to earlier attempts. The online appendix provides the details and estimates for the 113th Congress, but our estimates are plausibly time-invariant because we ask about policy views across administrations.

The ability to project our estimates of policy views for 165 agencies onto the same scale as President Bush, President Obama, and members of Congress creates a nice opportunity to test multiple theories about the political control of the bureaucracy and the extent to which elected officials have an incentive to delegate to unelected bureaucrats. Even so, any projection requires some binding assumptions – here we rely on a simple mean of the ideology of career civil servants for our estimate of perceived agency ideology and information about policy views that are uncorrelated with this mean are lost in the projection – and scholars should be mindful of these assumptions. Indeed, the common space estimates assume that all that is important in agency policy views can be inferred from the opinions of civil servants given on votes in Congress and that the content of agency statutes, mission or history do not influence ideology.

We project our estimates from the Bayesian multi-rater item response model onto a common space with members of Congress, President George W. Bush, and President Barack

Obama using the point estimates from a regression of the aggregated ideal point estimates of career

civil servants, which are directly comparable to ideal point estimates of these political principals, on

our multi-rater estimates. The survey team asked respondents to the 2014 *SFGS* and a similar survey

in 2007-2008 if they would have supported measures voted on by the 109th and 113th Congresses

(Figures A6 and A7 provide the questions). Using survey respondents' "votes" and roll call matrices

for the relevant Congresses, including the positions of President Bush and President Obama, we are

able to estimate the ideology of federal executives and elected officials on the same scale.[6] Within

Congresses, we use a set of bills voted on in both chambers to bridge chambers. We used legislators

and survey respondents serving over time to create bridges between congresses.[7] We then averaged

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[6] Jeff Lewis and Keith Poole compiled the roll call data and we downloaded them from

votview.com.

[7] We used 14 votes to bridge the 109th Congress and 12 votes to bridge the 113th Congress. We treat

members of the House who represented different Congressional districts due to redistricting as

separate legislators to account for the change in constituency influence. We estimate ideal points

using R 3.3.3 and the ideal function in the pscl package version 1.4.9. We computed estimates for

political principals using 1,000,000 iterations thinned by 200 with the first 100,000 iterations

discarded as "burn-in." The space was locally identified using a mean of 0 and variance of 1. For the

25 measures that survey respondents were asked about, the means of the posterior distributions

from the model of political principals were used as degenerate "spike" priors to estimate the ideal

points of survey respondents using 250,000 iterations thinned by 50, with the first 50,000 iterations

discarded as "burn-in." Otherwise, we used uninformed priors for all parameters. Diagnostics

indicated the MCMC chains converged. Only survey respondents with at least two votes were

included.

the ideal point estimates of career civil servants by agency from the 2014 *SFGS* to create an estimate

of agency ideology that is directly comparable to agencies' political principals.[8]

### Figure A6. Measures from the 113th Congress

In addition to the general political background of executive officials, we are also interested to know your personal opinion about several key votes in Congress during the last few years. These issues have gotten a lot of attention recently in the press and among the public, but no one has asked those responsible for implementing these policies their opinion. We would benefit from knowing the informed views of federal executives in the aggregate to compare with the public.

Specifically, would you have supported the following measures?

| | Yes | No | Not sure |
|---|---|---|---|
| **Overhaul the CFPB:** A bill to replace the Consumer Financial Protection Bureau with an independent Financial Product Safety Commission that, unlike the CFPB, would be subject to the congressional appropriations process. | ○ | ○ | ○ |
| **Repeal the Affordable Care Act:** A bill that would repeal the 2010 health care overhaul law, commonly called "Obamacare." | ○ | ○ | ○ |
| **Work Requirements/Drug Testing for SNAP:** A bill that would reauthorize the Supplemental Nutrition Assistance Program ("food stamps") allowing drug testing as a condition of receiving benefits and imposition of new work requirements on SNAP recipients. | ○ | ○ | ○ |
| **Congressional Approval of Federal Regulations:** A bill that would require Congress to approve executive agency regulatory proposals that are deemed to be "major rules." | ○ | ○ | ○ |
| **Approve the Keystone Pipeline:** A bill to approve the construction, operation, and maintenance of the Keystone XL pipeline. | ○ | ○ | ○ |
| **Employment Nondiscrimination:** A bill to prohibit employment discrimination on the basis of sexual orientation or gender identity. | ○ | ○ | ○ |
| **Assault Weapons Ban:** An amendment that would prohibit the future production, import, sale, transfer or possession of certain firearms considered to be assault weapons. | ○ | ○ | ○ |
| **Immigration Reform:** A bill that would overhaul U.S. immigration policies, create an incremental path to citizenship for most illegal immigrants in the country and institute new border security measures. | ○ | ○ | ○ |
| **Limit EPA Authority:** A bill that would limit EPA regulation of greenhouse gas emissions from fossil-fueled power plants under the 1963 air pollution control law. | ○ | ○ | ○ |
| **Violence Against Women Act Reauthorization:** A bill that would provide protections and assistance programs to victims of domestic violence, sexual assault, and stalking. | ○ | ○ | ○ |
| **Defund NSA Surveillance of U.S. Citizens:** An amendment that would bar the use of funds by the National Security Agency to target a U.S. person or acquire and store the content of their communications. | ○ | ○ | ○ |

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[8] We use the 2014 survey because it had a larger sample size.

**Figure A7. Measures from the 109th Congress**

In addition to the general political background of executive officials, we are also interested to know your personal opinion about several key votes in Congress in the last few years. Specifically, would you have supported the following measures?

| | Yes | No | Not Sure |
|---|---|---|---|
| A bill to authorize electronic surveillance of suspected terrorists without obtaining court approval (502/HR5825). | ○ | ○ | ○ |
| A bill to ensure access to federal courts for individuals who challenge government use of eminent domain to take their property (511/HR4772). | ○ | ○ | ○ |
| Efforts to amend the Constitution to prohibit desecration of the U.S. flag. (189/SJRes12) | ○ | ○ | ○ |
| A bill to require photo identification and proof of citizenship for voters in a federal election. (459/HR4844). | ○ | ○ | ○ |
| A bill to create federal grants to support sex education programs (214/S403) | ○ | ○ | ○ |
| A bill to halt deployment of space-based missile defense systems (142/HR5122). | ○ | ○ | ○ |
| A bill to increase the minimum wage to $7.25 per hour in two years (179/S2766) | ○ | ○ | ○ |
| A bill to prohibit funds for contracts with companies that incorporate offshore to avoid U.S. taxes (275/HR5576). | ○ | ○ | ○ |
| A measure to amend the Constitution to define marriage as the union of a man and a woman (378/HJRes88) | ○ | ○ | ○ |
| A bill to permit federal funds for embryonic-stem-cell research (206/HR810) | ○ | ○ | ○ |
| Confirmation of Samuel Alito as an associate justice on the Supreme Court (1/.) | ○ | ○ | ○ |
| A bill to make it a federal crime to take a minor across state lines to obtain an abortion without parental notification or consent. (216/S403) | ○ | ○ | ○ |
| A bill to establish English as the national language and require immigrants to pass proficiency tests (131/S2611) | ○ | ○ | ○ |
| A bill to permanently reduce estate taxes (315/HR5638) | ○ | ○ | ○ |

To project our multi-rater estimates onto the ideal point space, we use a weighted least squares regression and weight by the number of careerists for which we have ideal points in each agency. We limit the agencies included in the regression to those with at least 10 careerist ideal points and those with a difference of one or less between the 95% upper and lower bounds on the multi-rater estimate.[9]

Figure A8 plots the relationship between our multi-rater estimates and the average ideal point of each agency. We use the equation for this fitted line to project our multi-rater estimates onto the ideal point space. There is clear positive correlation between the multi-rater estimate and the agency-level averages. However, about 40% of the variance in the multi-rater estimate remains

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[9] Point estimates of the regression are not sensitive to setting a lower or higher threshold for the minimum number of respondents or to removing the constraint on the precision of the multi-rater estimate.

unexplained ($R^2$=0.64), which suggests that the multi-rater estimates contain additional information

that is not captured in the agency averages. We use a simple average of careerist ideal points, which

may not measure agency ideology as well as our multi-rater estimate for reasons discussed in Section

1 of the main text. The loss of this additional information is the cost of projecting the multi-rater

estimates onto the ideal point space. Lastly, Figure A9 plots the distribution of the projected ideal

points for federal agencies, President Obama, and members of the 113th Congress. Interestingly, the

distribution of ideal points for federal agencies lies between Republicans and Democrats in

Congress, with more overlap with Democrats than Republicans. Even conservative agencies, like the

Department of Defense, are notably less conservative than Congressional Republicans.

**Figure A8. Relationship between the Multi-rater Estimate and Avg. Careerist Ideal Points**



Note: The fitted line is estimated using a weighted least squares regression: N=70, $R^2$=0.64, the intercept is -0.40 with a 95% confidence interval of [-0.42, -0.37], and the slope coefficient is 0.14 with a 95% confidence interval of [0.11, 0.16]. One observation is omitted from the plot, but included the regression, to protect the anonymity of respondents because the target population for the agency is less than 30. This observation is not an outlier.

**Figure A9. Perceived Agency Ideology on a Common Space: 113th Congress**
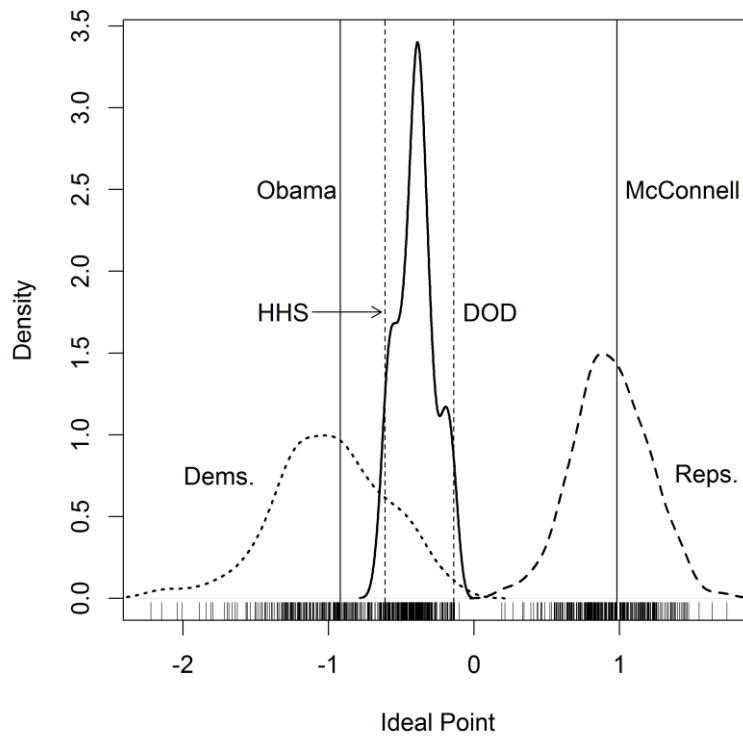


Note: The plot includes solid vertical lines located at the ideal points of President Obama and Senator Mitch McConnell. The dotted vertical lines are located at the projections of the multi-rater ideology estimates for the Department of Defense and the Department of Health and Human Services.

**Section 6. Rating Information for Estimates of Perceived Agency Ideology**

There are at least two reasons that respondents may perceive that an agency's policy views do not slant liberal or conservative across administrations. First, the correlation between an individual's policy preferences on an agency's specific policy domain and that individual's ideology may be strong, but the respondent perceives that an agency's policy views are not consistently liberal or conservative across time. In other cases, the correlation between an individual's policy preferences on an agency's specific policy domain and that individual's ideology may be weak. Such policy domains are "non-ideological." Respondents may have greater difficulty placing agencies with non-ideological policy views on the scale provided by the survey.

Figure A10 plots the estimates of perceived agency ideology as a function of the proportion of ratings for that agency that are "Don't know." Agencies are clearly more likely to be perceived as moderate as the proportion of don't-know responses increases, but it is not clear that these moderate agencies with a high proportion of don't-know responses are non-ideological. For example, the National Archives and Records Administration, the Federal Election Commission, and the Federal Communications Commission all have greater than 60% don't-know responses and all are estimated to be moderate. Individuals' views about record keeping by the NARA are unlikely to be correlated with ideology, while views about the regulation of campaign finance by the FEC or regulation of the communications industry by the FCC are likely to be correlated with ideology. Scholars should be mindful of this difference in possible interpretations of what it means to be a "moderate" agency when using these estimates.

## Figure A10. Proportion of "Don't Know" Responses and Perceived Agency Ideology
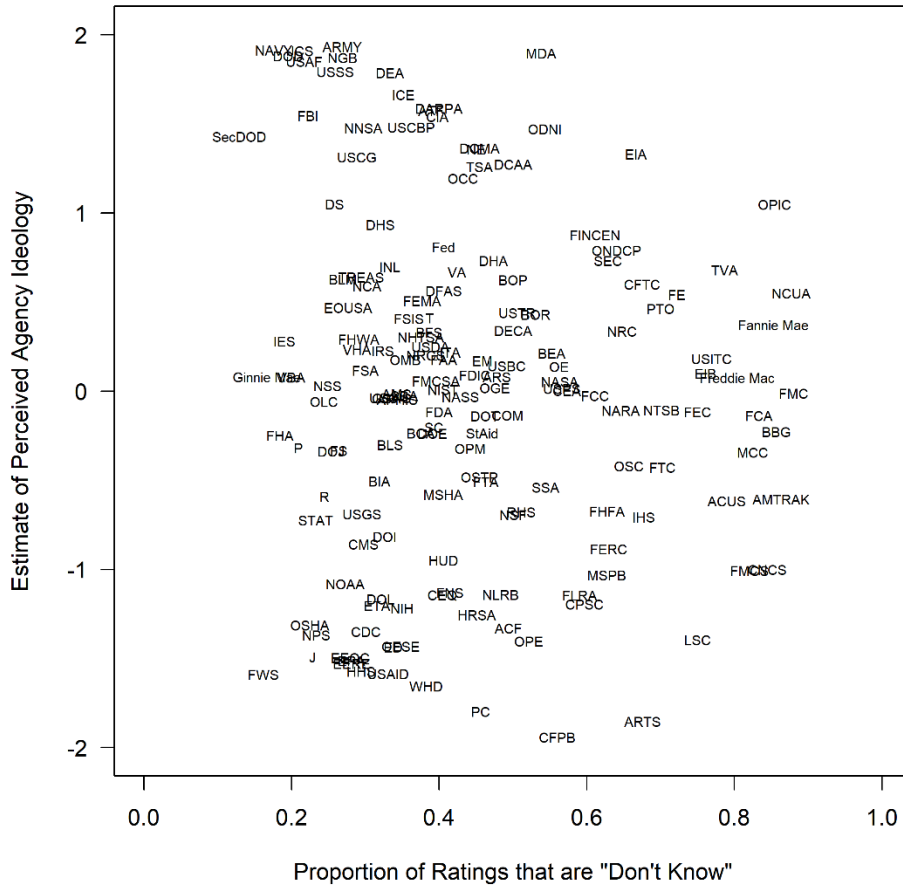
## Table A2. Rating Information for Estimates of Perceived Agency Ideology

| Agency | Acronym | Multi-rater Model | | | All Ratings | | |
|---|---|---|---|---|---|---|---|
| | | Informed | All | Prop. Informed | Informed | All | Prop. Informed |
| **Executive Office of the President** | | | | | | | |
| Council of Economic Advisers | CEA | 21 | 37 | 0.57 | 22 | 38 | 0.58 |
| Council on Environmental Quality | CEQ | 36 | 52 | 0.69 | 36 | 53 | 0.68 |
| National Security Staff | NSS | 114 | 141 | 0.81 | 115 | 142 | 0.81 |
| Office of Management and Budget | OMB | 283 | 1,298 | 0.22 | 308 | 1,379 | 0.22 |
| Office of National Drug Control Policy | ONDCP | 10 | 23 | 0.43 | 10 | 23 | 0.43 |
| Office of Science and Technology Policy | OSTP | 45 | 61 | 0.74 | 50 | 66 | 0.76 |
| Office of the United States Trade Representative | USTR | 31 | 42 | 0.74 | 32 | 44 | 0.73 |
| **Department of Agriculture** | USDA | 93 | 111 | 0.84 | 104 | 123 | 0.85 |
| Agricultural Marketing Service | AMS | 6 | 21 | 0.29 | 8 | 23 | 0.35 |
| Agricultural Research Service | ARS | 7 | 23 | 0.30 | 8 | 24 | 0.33 |
| Animal and Plant Health Inspection Service | APHIS | 23 | 41 | 0.56 | 26 | 44 | 0.59 |
| Farm Service Agency | FSA | 16 | 28 | 0.57 | 16 | 28 | 0.57 |
| Food and Nutrition Service | FNS | 11 | 24 | 0.46 | 11 | 24 | 0.46 |
| Food Safety and Inspection Service | FSIS | 12 | 23 | 0.52 | 14 | 25 | 0.56 |
| Forest Service | FS | 47 | 63 | 0.75 | 48 | 64 | 0.75 |
| National Agricultural Statistics Service | NASS | 10 | 22 | 0.45 | 11 | 24 | 0.46 |
| Natural Resources Conservation Service | NRCS | 25 | 33 | 0.76 | 26 | 34 | 0.76 |
| Rural Housing Service | RHS | 11 | 19 | 0.58 | 14 | 22 | 0.64 |
| **Department of Commerce** | COM | 47 | 64 | 0.73 | 51 | 68 | 0.75 |
| Bureau of Economic Analysis | BEA | 10 | 17 | 0.59 | 10 | 17 | 0.59 |
| International Trade Administration | ITA | 18 | 31 | 0.58 | 18 | 31 | 0.58 |
| National Institute of Standards and Technology | NIST | 11 | 25 | 0.44 | 11 | 25 | 0.44 |
| National Oceanic and Atmospheric Administration | NOAA | 51 | 63 | 0.81 | 51 | 64 | 0.80 |
| U.S. Census Bureau | USBC | 15 | 26 | 0.58 | 18 | 29 | 0.62 |
| U.S. Patent and Trademark Office | PTO | 2 | 9 | 0.22 | 2 | 9 | 0.22 |
| **Department of Defense** | DOD | 208 | 234 | 0.89 | 221 | 247 | 0.89 |
| Defense Advanced Research Projects Agency | DARPA | 4 | 15 | 0.27 | 4 | 15 | 0.27 |
| Defense Commissary Agency | DECA | 0 | 9 | 0.00 | 0 | 9 | 0.00 |
| Defense Contract Audit Agency | DCAA | 3 | 17 | 0.18 | 3 | 17 | 0.18 |
| Defense Contract Management Agency | DCMA | 10 | 18 | 0.56 | 10 | 18 | 0.56 |

| Defense Finance and Accounting Service | DFAS | 6 | 19 | 0.32 | 6 | 19 | 0.32 |
|---|---|---|---|---|---|---|---|
| Defense Health Agency | DHA | 10 | 20 | 0.50 | 10 | 20 | 0.50 |
| Department of the Air Force | USAF | 38 | 48 | 0.79 | 44 | 54 | 0.81 |
| Department of the Army | ARMY | 53 | 65 | 0.82 | 56 | 68 | 0.82 |
| Department of the Navy | NAVY | 43 | 57 | 0.75 | 47 | 61 | 0.77 |
| Joint Chiefs of Staff | JCS | 20 | 25 | 0.80 | 21 | 26 | 0.81 |
| Missile Defense Agency | MDA | 7 | 12 | 0.58 | 7 | 12 | 0.58 |
| National Guard Bureau | NGB | 5 | 19 | 0.26 | 5 | 19 | 0.26 |
| Office of the Secretary of Defense | SecDOD | 101 | 105 | 0.96 | 111 | 115 | 0.97 |
| **Department of Education** | ED | 26 | 51 | 0.51 | 29 | 55 | 0.53 |
| Institute of Education Sciences | IES | 4 | 16 | 0.25 | 5 | 17 | 0.29 |
| Office of Elementary and Secondary Education | OESE | 8 | 13 | 0.62 | 9 | 15 | 0.60 |
| Office of Federal Student Aid | StAid | 3 | 13 | 0.23 | 3 | 13 | 0.23 |
| Office of Postsecondary Education | OPE | 2 | 11 | 0.18 | 2 | 11 | 0.18 |
| **Department of Energy** | DOE | 56 | 72 | 0.78 | 65 | 81 | 0.80 |
| Energy Information Administration | EIA | 3 | 8 | 0.38 | 3 | 9 | 0.33 |
| Federal Energy Regulatory Commission | FERC | 4 | 10 | 0.40 | 4 | 10 | 0.40 |
| National Nuclear Security Administration | NNSA | 19 | 26 | 0.73 | 19 | 26 | 0.73 |
| Office of Electricity Delivery and Energy Reliability | OE | 2 | 7 | 0.29 | 2 | 7 | 0.29 |
| Office of Energy Efficiency and Renewable Energy | EERE | 7 | 22 | 0.32 | 8 | 23 | 0.35 |
| Office of Environmental Management | EM | 7 | 13 | 0.54 | 7 | 13 | 0.54 |
| Office of Fossil Energy | FE | 2 | 5 | 0.40 | 2 | 5 | 0.40 |
| Office of Nuclear Energy | NE | 6 | 11 | 0.55 | 6 | 11 | 0.55 |
| Office of Science | SC | 6 | 16 | 0.38 | 6 | 17 | 0.35 |
| **Department of Health and Human Services** | HHS | 97 | 123 | 0.79 | 111 | 139 | 0.80 |
| Administration for Children and Families | ACF | 18 | 38 | 0.47 | 19 | 39 | 0.49 |
| Centers for Disease Control and Prevention | CDC | 53 | 73 | 0.73 | 58 | 79 | 0.73 |
| Centers for Medicare and Medicaid Services | CMS | 37 | 56 | 0.66 | 40 | 59 | 0.68 |
| Food and Drug Administration | FDA | 35 | 53 | 0.66 | 36 | 54 | 0.67 |
| Health Resources and Services Administration | HRSA | 13 | 38 | 0.34 | 14 | 39 | 0.36 |
| Indian Health Service | IHS | 7 | 21 | 0.33 | 7 | 21 | 0.33 |
| National Institutes of Health | NIH | 46 | 62 | 0.74 | 51 | 67 | 0.76 |
| **Department of Homeland Security** | DHS | 114 | 140 | 0.81 | 116 | 142 | 0.82 |
| Citizenship and Immigration Services | USCIS | 12 | 21 | 0.57 | 13 | 22 | 0.59 |
| Coast Guard | USCG | 26 | 39 | 0.67 | 28 | 42 | 0.67 |
| Customs and Border Protection | USCBP | 23 | 33 | 0.70 | 26 | 37 | 0.70 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Federal Emergency Management Agency | FEMA | 27 | 35 | 0.77 | 30 | 38 | 0.79 |
| Immigration and Customs Enforcement | ICE | 19 | 24 | 0.79 | 19 | 24 | 0.79 |
| Secret Service | USSS | 6 | 19 | 0.32 | 6 | 20 | 0.30 |
| Transportation Security Administration | TSA | 5 | 12 | 0.42 | 5 | 12 | 0.42 |
| **Department of Housing & Urban Development** | HUD | 44 | 60 | 0.73 | 47 | 63 | 0.75 |
| Federal Housing Administration | FHA | 9 | 31 | 0.29 | 9 | 31 | 0.29 |
| Government National Mortgage Association | Ginnie Mae | 4 | 25 | 0.16 | 4 | 25 | 0.16 |
| Department of the Interior | DOI | 73 | 89 | 0.82 | 77 | 93 | 0.83 |
| Bureau of Indian Affairs | BIA | 14 | 30 | 0.47 | 15 | 32 | 0.47 |
| Bureau of Land Management | BLM | 20 | 38 | 0.53 | 20 | 38 | 0.53 |
| Bureau of Reclamation | BOR | 11 | 23 | 0.48 | 11 | 23 | 0.48 |
| National Park Service | NPS | 23 | 44 | 0.52 | 25 | 46 | 0.54 |
| U.S. Fish and Wildlife Service | FWS | 42 | 56 | 0.75 | 42 | 57 | 0.74 |
| U.S. Geological Survey | USGS | 29 | 42 | 0.69 | 29 | 43 | 0.67 |
| **Department of Justice** | DOJ | 180 | 201 | 0.90 | 206 | 227 | 0.91 |
| Bureau of Alcohol, Tobacco, Firearms & Explosives | ATF | 10 | 22 | 0.45 | 10 | 22 | 0.45 |
| Bureau of Prisons | BOP | 3 | 12 | 0.25 | 3 | 12 | 0.25 |
| Drug Enforcement Administration | DEA | 18 | 32 | 0.56 | 18 | 32 | 0.56 |
| Executive Office for United States Attorneys | EOUSA | 19 | 33 | 0.58 | 20 | 34 | 0.59 |
| Federal Bureau of Investigation | FBI | 54 | 65 | 0.83 | 59 | 70 | 0.84 |
| Office of Legal Counsel | OLC | 13 | 30 | 0.43 | 14 | 31 | 0.45 |
| **Department of Labor** | DOL | 62 | 78 | 0.79 | 70 | 87 | 0.80 |
| Bureau of Labor Statistics | BLS | 9 | 29 | 0.31 | 11 | 32 | 0.34 |
| Employment and Training Administration | ETA | 17 | 38 | 0.45 | 18 | 39 | 0.46 |
| Mine Safety and Health Administration | MSHA | 2 | 21 | 0.10 | 2 | 22 | 0.09 |
| Occupational Safety and Health Administration | OSHA | 28 | 36 | 0.78 | 29 | 38 | 0.76 |
| Wage and Hour Division | WHD | 9 | 20 | 0.45 | 9 | 21 | 0.43 |
| **Department of State** | STAT | 118 | 144 | 0.82 | 129 | 155 | 0.83 |
| Arms Control and International Security | T | 8 | 17 | 0.47 | 10 | 19 | 0.53 |
| Bureau of Consular Affairs | BCA | 6 | 20 | 0.30 | 6 | 20 | 0.30 |
| Bureau of Diplomatic Security | DS | 3 | 23 | 0.13 | 3 | 23 | 0.13 |
| Bureau of Intl Narcotics & Law Enforcement Affairs | INL | 1 | 18 | 0.06 | 1 | 18 | 0.06 |
| Civilian Security, Democracy, and Human Rights | J | 5 | 25 | 0.20 | 7 | 27 | 0.26 |
| Economic Growth, Energy, and the Environment | E | 25 | 39 | 0.64 | 25 | 39 | 0.64 |
| Political Affairs | P | 8 | 33 | 0.24 | 9 | 34 | 0.26 |
| Public Diplomacy and Public Affairs | R | 11 | 33 | 0.33 | 12 | 34 | 0.35 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Department of Transportation** | DOT | 53 | 64 | 0.83 | 59 | 70 | 0.84 |
| Federal Aviation Administration | FAA | 23 | 36 | 0.64 | 25 | 38 | 0.66 |
| Federal Highway Administration | FHWA | 21 | 37 | 0.57 | 22 | 39 | 0.56 |
| Federal Motor Carrier Safety Administration | FMCSA | 10 | 29 | 0.34 | 10 | 29 | 0.34 |
| Federal Transit Administration | FTA | 7 | 20 | 0.35 | 8 | 22 | 0.36 |
| National Highway Traffic Safety Administration | NHTSA | 4 | 24 | 0.17 | 5 | 25 | 0.20 |
| **Department of the Treasury** | TREAS | 77 | 100 | 0.77 | 84 | 108 | 0.78 |
| Bureau of Engraving and Printing | BEP | NA | NA | NA | 2 | 4 | 0.50 |
| Bureau of the Fiscal Service | BFS | 17 | 25 | 0.68 | 19 | 27 | 0.70 |
| Financial Crimes Enforcement Network | FINCEN | 4 | 7 | 0.57 | 4 | 7 | 0.57 |
| Internal Revenue Service | IRS | 32 | 40 | 0.80 | 38 | 46 | 0.83 |
| Office of the Comptroller of the Currency | OCC | 13 | 19 | 0.68 | 15 | 21 | 0.71 |
| U.S. Mint | USMINT | NA | NA | NA | 1 | 3 | 0.33 |
| **Department of Veterans Affairs** | VA | 45 | 69 | 0.65 | 48 | 72 | 0.67 |
| National Cemetery Administration | NCA | 4 | 29 | 0.14 | 4 | 30 | 0.13 |
| Veterans Benefits Administration | VBA | 15 | 34 | 0.44 | 15 | 36 | 0.42 |
| Veterans Health Administration | VHA | 15 | 31 | 0.48 | 15 | 32 | 0.47 |
| Administrative Conference of the United States | ACUS | 4 | 9 | 0.44 | 7 | 12 | 0.58 |
| Broadcasting Board of Governors | BBG | 1 | 8 | 0.13 | 1 | 8 | 0.13 |
| Central Intelligence Agency | CIA | 27 | 50 | 0.54 | 27 | 50 | 0.54 |
| Commodity Futures Trading Commission | CFTC | 7 | 23 | 0.30 | 10 | 26 | 0.38 |
| Consumer Financial Protection Bureau | CFPB | 17 | 31 | 0.55 | 18 | 33 | 0.55 |
| Consumer Product Safety Commission | CPSC | 5 | 25 | 0.20 | 5 | 25 | 0.20 |
| Corporation for National and Community Service | CNCS | 2 | 6 | 0.33 | 2 | 7 | 0.29 |
| Environmental Protection Agency | EPA | 85 | 113 | 0.75 | 86 | 115 | 0.75 |
| Equal Employment Opportunity Commission | EEOC | 32 | 60 | 0.53 | 39 | 67 | 0.58 |
| Export-Import Bank of the U.S. | EIB | 2 | 11 | 0.18 | 2 | 11 | 0.18 |
| Farm Credit Administration | FCA | 1 | 10 | 0.10 | 1 | 10 | 0.10 |
| Federal Communications Commission | FCC | 10 | 26 | 0.38 | 11 | 28 | 0.39 |
| Federal Deposit Insurance Corporation | FDIC | 27 | 46 | 0.59 | 29 | 48 | 0.60 |
| Federal Election Commission | FEC | 0 | 14 | 0.00 | 0 | 14 | 0.00 |
| Federal Home Loan Mortgage Corporation | Freddie Mac | 1 | 10 | 0.10 | 1 | 10 | 0.10 |
| Federal Housing Finance Agency | FHFA | 9 | 19 | 0.47 | 9 | 19 | 0.47 |
| Federal Labor Relations Authority | FLRA | 3 | 25 | 0.12 | 3 | 25 | 0.12 |
| Federal Maritime Commission | FMC | 2 | 6 | 0.33 | 2 | 6 | 0.33 |
| Federal Mediation and Conciliation Service | FMCS | 3 | 11 | 0.27 | 4 | 12 | 0.33 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Federal National Mortgage Association | Fannie Mae | 1 | 10 | 0.10 | 1 | 10 | 0.10 |
| Federal Reserve | Fed | 26 | 57 | 0.46 | 29 | 60 | 0.48 |
| Federal Trade Commission | FTC | 7 | 20 | 0.35 | 9 | 22 | 0.41 |
| General Services Administration | GSA | 74 | 98 | 0.76 | 74 | 98 | 0.76 |
| Legal Services Corporation | LSC | 0 | 13 | 0.00 | 0 | 15 | 0.00 |
| Merit Systems Protection Board | MSPB | 8 | 22 | 0.36 | 8 | 22 | 0.36 |
| Millennium Challenge Corporation | MCC | 5 | 13 | 0.38 | 6 | 14 | 0.43 |
| National Aeronautics and Space Administration | NASA | 20 | 36 | 0.56 | 22 | 38 | 0.58 |
| National Archives and Records Administration | NARA | 7 | 23 | 0.30 | 7 | 23 | 0.30 |
| National Credit Union Administration | NCUA | 0 | 8 | 0.00 | 0 | 8 | 0.00 |
| National Foundation on the Arts & the Humanities | ARTS | 4 | 24 | 0.17 | 4 | 24 | 0.17 |
| National Labor Relations Board | NLRB | 6 | 31 | 0.19 | 6 | 31 | 0.19 |
| National Railroad Passenger Corporation | AMTRAK | 2 | 9 | 0.22 | 2 | 9 | 0.22 |
| National Science Foundation | NSF | 18 | 39 | 0.46 | 21 | 43 | 0.49 |
| National Transportation Safety Board | NTSB | 6 | 20 | 0.30 | 6 | 20 | 0.30 |
| Nuclear Regulatory Commission | NRC | 16 | 25 | 0.64 | 16 | 25 | 0.64 |
| Office of Government Ethics | OGE | 11 | 32 | 0.34 | 11 | 32 | 0.34 |
| Office of Personnel Management | OPM | 81 | 1,147 | 0.07 | 83 | 1,192 | 0.07 |
| Office of Special Counsel | OSC | 7 | 22 | 0.32 | 9 | 24 | 0.38 |
| Office of the Director of National Intelligence | ODNI | 14 | 36 | 0.39 | 15 | 37 | 0.41 |
| Overseas Private Investment Corporation | OPIC | 2 | 8 | 0.25 | 2 | 8 | 0.25 |
| Peace Corps | PC | 5 | 26 | 0.19 | 6 | 31 | 0.19 |
| Railroad Retirement Board | RRB | NA | NA | NA | 1 | 3 | 0.33 |
| Securities and Exchange Commission | SEC | 10 | 20 | 0.50 | 11 | 23 | 0.48 |
| Small Business Administration | SBA | 27 | 52 | 0.52 | 30 | 55 | 0.55 |
| Social Security Administration | SSA | 18 | 36 | 0.50 | 18 | 36 | 0.50 |
| Tennessee Valley Authority | TVA | 3 | 13 | 0.23 | 3 | 13 | 0.23 |
| U.S. Agency for International Development | USAID | 55 | 70 | 0.79 | 60 | 75 | 0.80 |
| United States International Trade Commission | USITC | 1 | 14 | 0.07 | 1 | 15 | 0.07 |
| United States Postal Service | USPS | 16 | 35 | 0.46 | 16 | 36 | 0.44 |

**Section 7: Estimates and Rating Information for Estimates of Perceived Agency Skill**

We use an identical measurement model to the one described in Section 3 to generate the

estimates of perceived agency skill. Let $X$ be the M × N ratings matrix with element $y_{ij}$ denoting

agency $i's$ rating by respondent $j$. We restrict the data to those respondents who rated at least three

agencies and those agencies with at least five skill ratings, resulting in $M = 159$ and $N = 1,975$.

Because respondents rate at most eight agencies, there are only 10,000 non-missing elements in $X$.

Of the 1,975 respondents, 1,593 rated OMB, 1,432 rated OPM, 1,299 rated both OMB and OPM,

and 249 rated neither OMB nor OPM.

We used JAGS 4.2.0 via the runjags package using R 3.3.0 to estimate the model with

informed priors. The model proved to be "slow mixing" and thus required a rather long model run.

Two chains were estimated with over-dispersed start values for the latent traits (one chain was

started with all latent traits equal to one, i.e. not at all skilled, and the other chain was started with all

latent traits equal to five, i.e., very skilled). After 10,000 adaptive iterations to improve sampling

efficiency, we ran each chain for 4,600,000 iterations thinned by 400 with the first 3,000,000

iterations discarded as "burn-in." This left 8,000 observations (4,000 from each chain) for inference.

Diagnostics indicated the MCMC chains converged. Estimates of skill were post-processed iteration-

by-iteration to be distributed N(0,1). Informed priors determined the direction of the scale.

Figure A11 plots the skill estimates sorted from most skilled to least skilled. Table A3

contains the skills estimates sorted by agency and Table A4 contains the number of ratings per

agency. Figure A12 compares estimates and standard deviations of workforce skill with and without

informed priors.[10] Estimates do not materially deviate from the 45-degree line indicating point

estimates with the informed prior are similar to estimates without the informed prior. The standard

deviations are nearly all below the 45-degree line demonstrating the informed priors increase the

precision of the estimates.

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[10] The prior on workforce skill for this model was N(0,1). The model run was longer for the baseline

estimates. After 10,000 adaptive iterations to improve sampling efficiency, we ran each chain for

5,600,000 iterations thinned by 400 with the first 4,000,000 iterations discarded as "burn-in."

## Figure A11. Estimates of Perceived Agency Workforce Skill



Estimate of Perceived Agency Workforce Skill
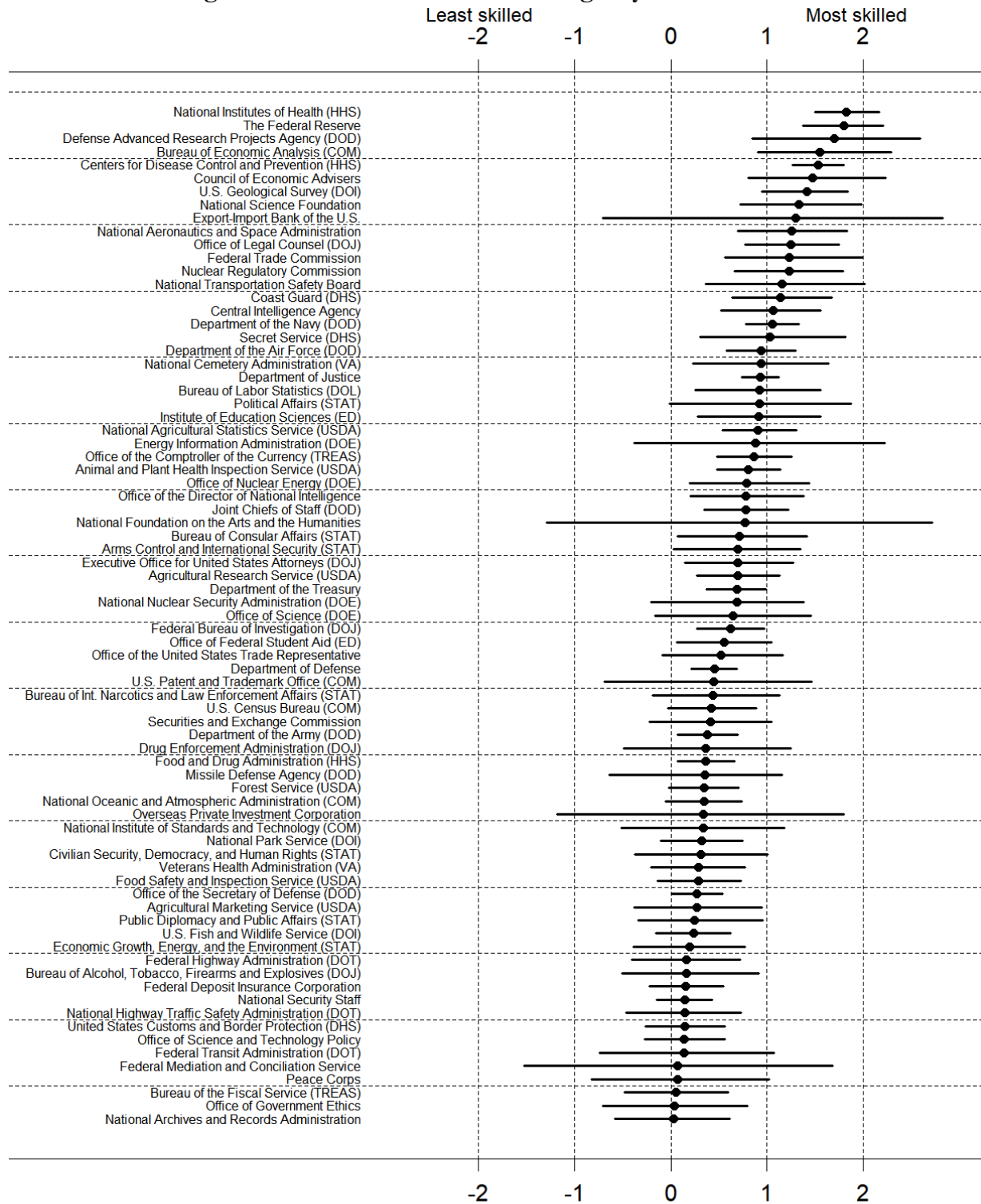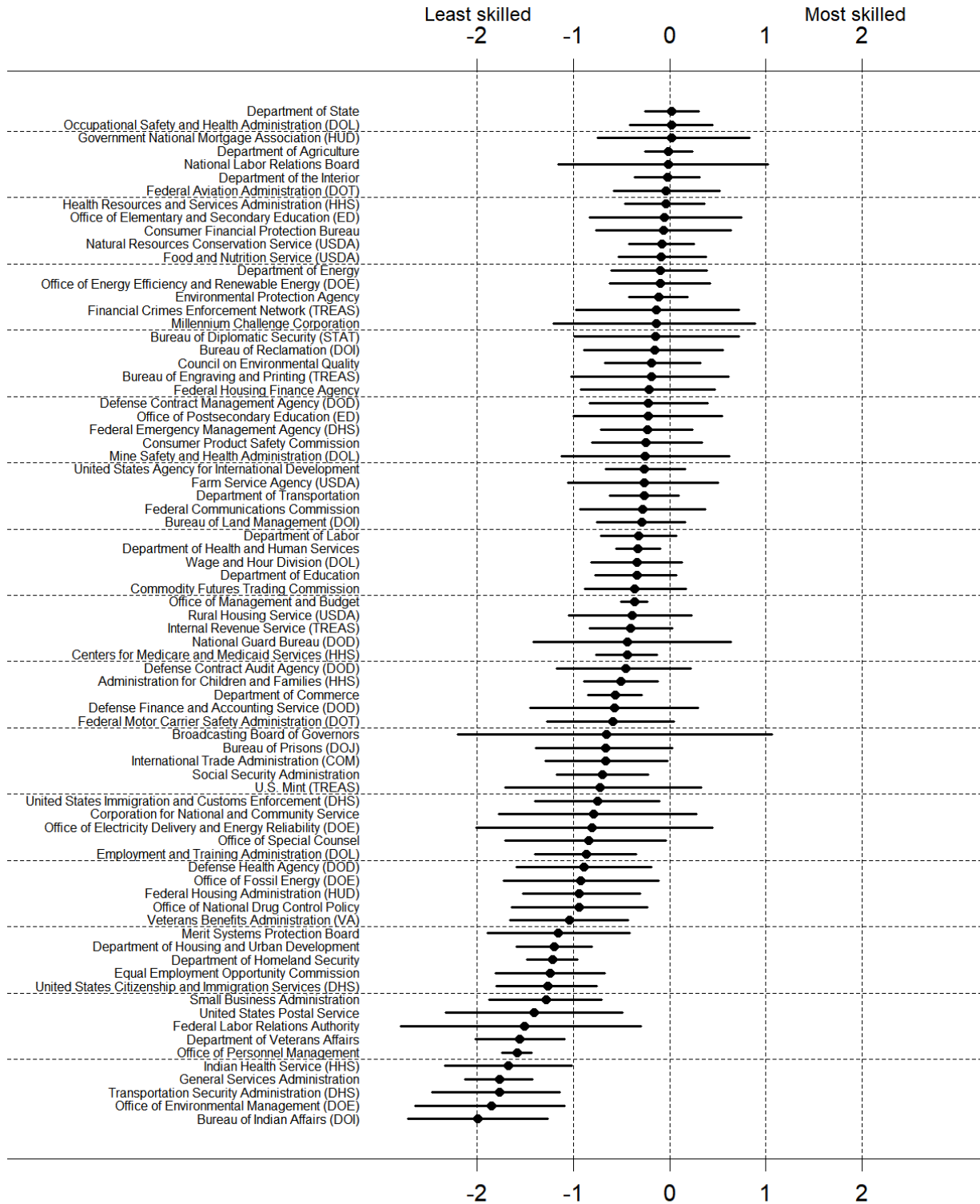
Estimate of Perceived Agency Workforce Skill

Note: Lines denote 95% region of highest posterior density. We post-processed the simulation output iteration-by-iteration to constrain the estimates of perceived agency skill to be distributed N(0,1) and we allow the priors on perceived agency skill to set the direction of the scale. Five agencies are omitted due to extreme uncertainty, but these agencies are included in Table A3.

## Table A3. Estimates of Perceived Agency Workforce Skill

| Agency | Perceived Workforce Skill Estimate | Standard Deviation | 95% Lower Bound | 95% Upper Bound |
|---|---|---|---|---|
| Administration for Children and Families (HHS) | -0.50 | 0.20 | -0.89 | -0.12 |
| Agricultural Marketing Service (USDA) | 0.27 | 0.34 | -0.38 | 0.95 |
| Agricultural Research Service (USDA) | 0.69 | 0.22 | 0.27 | 1.13 |
| Animal and Plant Health Inspection Service (USDA) | 0.81 | 0.17 | 0.48 | 1.14 |
| Arms Control and International Security (STAT) | 0.70 | 0.33 | 0.03 | 1.35 |
| Broadcasting Board of Governors | -0.66 | 0.83 | -2.21 | 1.06 |
| Bureau of Alcohol, Tobacco, Firearms and Explosives (DOJ) | 0.16 | 0.36 | -0.51 | 0.92 |
| Bureau of Consular Affairs (STAT) | 0.71 | 0.34 | 0.07 | 1.41 |
| Bureau of Diplomatic Security (STAT) | -0.15 | 0.43 | -0.99 | 0.73 |
| Bureau of Economic Analysis (COM) | 1.55 | 0.35 | 0.90 | 2.29 |
| Bureau of Engraving and Printing (TREAS) | -0.19 | 0.42 | -1.02 | 0.61 |
| Bureau of Indian Affairs (DOI) | -1.99 | 0.37 | -2.72 | -1.27 |
| Bureau of Int. Narcotics and Law Enforcement Affairs (STAT) | 0.44 | 0.33 | -0.19 | 1.13 |
| Bureau of Labor Statistics (DOL) | 0.93 | 0.33 | 0.25 | 1.56 |
| Bureau of Land Management (DOI) | -0.29 | 0.23 | -0.76 | 0.16 |
| Bureau of Prisons (DOJ) | -0.66 | 0.36 | -1.39 | 0.03 |
| Bureau of Reclamation (DOI) | -0.15 | 0.37 | -0.89 | 0.56 |
| Bureau of the Fiscal Service (TREAS) | 0.06 | 0.28 | -0.48 | 0.60 |
| Centers for Disease Control and Prevention (HHS) | 1.53 | 0.14 | 1.27 | 1.80 |
| Centers for Medicare and Medicaid Services (HHS) | -0.44 | 0.16 | -0.76 | -0.13 |
| Central Intelligence Agency | 1.06 | 0.26 | 0.52 | 1.56 |
| Civilian Security, Democracy, and Human Rights (STAT) | 0.31 | 0.36 | -0.37 | 1.01 |
| Coast Guard (DHS) | 1.14 | 0.26 | 0.64 | 1.67 |
| Commodity Futures Trading Commission | -0.36 | 0.27 | -0.88 | 0.17 |
| Consumer Financial Protection Bureau | -0.07 | 0.36 | -0.77 | 0.64 |
| Consumer Product Safety Commission | -0.25 | 0.28 | -0.80 | 0.33 |
| Corporation for National and Community Service | -0.79 | 0.52 | -1.78 | 0.28 |
| Council of Economic Advisers | 1.47 | 0.37 | 0.81 | 2.24 |
| Council on Environmental Quality | -0.19 | 0.25 | -0.67 | 0.32 |
| Defense Advanced Research Projects Agency (DOD) | 1.70 | 0.45 | 0.85 | 2.59 |
| Defense Commissary Agency (DOD) | -0.59 | 1.71 | -4.26 | 2.56 |
| Defense Contract Audit Agency (DOD) | -0.45 | 0.35 | -1.18 | 0.22 |
| Defense Contract Management Agency (DOD) | -0.22 | 0.31 | -0.83 | 0.40 |
| Defense Finance and Accounting Service (DOD) | -0.57 | 0.44 | -1.45 | 0.30 |
| Defense Health Agency (DOD) | -0.89 | 0.35 | -1.59 | -0.19 |
| Department of Agriculture | -0.01 | 0.13 | -0.26 | 0.23 |
| Department of Commerce | -0.57 | 0.14 | -0.85 | -0.29 |
| Department of Defense | 0.45 | 0.12 | 0.22 | 0.69 |
| Department of Education | -0.34 | 0.22 | -0.78 | 0.07 |

| | | | | |
|---|---|---|---|---|
| Department of Energy | -0.10 | 0.25 | -0.60 | 0.39 |
| Department of Health and Human Services | -0.33 | 0.12 | -0.56 | -0.10 |
| Department of Homeland Security | -1.22 | 0.13 | -1.48 | -0.96 |
| Department of Housing and Urban Development | -1.20 | 0.20 | -1.59 | -0.81 |
| Department of Justice | 0.93 | 0.10 | 0.74 | 1.13 |
| Department of Labor | -0.32 | 0.20 | -0.71 | 0.07 |
| Department of State | 0.02 | 0.14 | -0.25 | 0.30 |
| Department of the Air Force (DOD) | 0.94 | 0.19 | 0.58 | 1.30 |
| Department of the Army (DOD) | 0.38 | 0.16 | 0.07 | 0.69 |
| Department of the Interior | -0.02 | 0.17 | -0.36 | 0.31 |
| Department of the Navy (DOD) | 1.06 | 0.14 | 0.78 | 1.33 |
| Department of the Treasury | 0.69 | 0.16 | 0.37 | 0.99 |
| Department of Transportation | -0.27 | 0.18 | -0.62 | 0.10 |
| Department of Veterans Affairs | -1.55 | 0.24 | -2.01 | -1.09 |
| Drug Enforcement Administration (DOJ) | 0.37 | 0.44 | -0.49 | 1.25 |
| Economic Growth, Energy, and the Environment (STAT) | 0.19 | 0.29 | -0.39 | 0.77 |
| Employment and Training Administration (DOL) | -0.86 | 0.27 | -1.40 | -0.35 |
| Energy Information Administration (DOE) | 0.88 | 0.69 | -0.38 | 2.23 |
| Environmental Protection Agency | -0.11 | 0.15 | -0.42 | 0.19 |
| Equal Employment Opportunity Commission | -1.24 | 0.29 | -1.81 | -0.67 |
| Executive Office for United States Attorneys (DOJ) | 0.69 | 0.29 | 0.15 | 1.27 |
| Export-Import Bank of the U.S. | 1.30 | 0.86 | -0.70 | 2.83 |
| Farm Service Agency (USDA) | -0.26 | 0.39 | -1.05 | 0.50 |
| Federal Aviation Administration (DOT) | -0.04 | 0.28 | -0.58 | 0.52 |
| Federal Bureau of Investigation (DOJ) | 0.62 | 0.18 | 0.27 | 0.97 |
| Federal Communications Commission | -0.28 | 0.32 | -0.93 | 0.37 |
| Federal Deposit Insurance Corporation | 0.15 | 0.20 | -0.22 | 0.55 |
| Federal Emergency Management Agency (DHS) | -0.23 | 0.24 | -0.72 | 0.24 |
| Federal Energy Regulatory Commission (DOE) | -1.56 | 1.59 | -4.30 | 1.83 |
| Federal Highway Administration (DOT) | 0.16 | 0.29 | -0.41 | 0.73 |
| Federal Home Loan Mortgage Corporation | -1.29 | 4.38 | -9.45 | 7.59 |
| Federal Housing Administration (HUD) | -0.94 | 0.31 | -1.52 | -0.31 |
| Federal Housing Finance Agency | -0.22 | 0.36 | -0.92 | 0.47 |
| Federal Labor Relations Authority | -1.51 | 0.62 | -2.80 | -0.29 |
| Federal Mediation and Conciliation Service | 0.07 | 0.79 | -1.53 | 1.68 |
| Federal Motor Carrier Safety Administration (DOT) | -0.59 | 0.33 | -1.28 | 0.05 |
| Federal Trade Commission | 1.23 | 0.36 | 0.56 | 1.99 |
| Federal Transit Administration (DOT) | 0.13 | 0.46 | -0.74 | 1.07 |
| Financial Crimes Enforcement Network (TREAS) | -0.13 | 0.42 | -0.97 | 0.72 |
| Food and Drug Administration (HHS) | 0.36 | 0.15 | 0.07 | 0.66 |
| Food and Nutrition Service (USDA) | -0.09 | 0.23 | -0.53 | 0.38 |
| Food Safety and Inspection Service (USDA) | 0.29 | 0.22 | -0.14 | 0.73 |
| Forest Service (USDA) | 0.35 | 0.18 | -0.02 | 0.71 |

| | | | | |
|---|---|---|---|---|
| General Services Administration | -1.77 | 0.18 | -2.13 | -1.42 |
| Government National Mortgage Association (HUD) | 0.02 | 0.40 | -0.75 | 0.83 |
| Health Resources and Services Administration (HHS) | -0.04 | 0.21 | -0.46 | 0.36 |
| Indian Health Service (HHS) | -1.68 | 0.34 | -2.34 | -1.02 |
| Institute of Education Sciences (ED) | 0.91 | 0.32 | 0.28 | 1.56 |
| Internal Revenue Service (TREAS) | -0.41 | 0.22 | -0.83 | 0.03 |
| International Trade Administration (COM) | -0.66 | 0.32 | -1.29 | -0.02 |
| Joint Chiefs of Staff (DOD) | 0.78 | 0.22 | 0.35 | 1.23 |
| Merit Systems Protection Board | -1.16 | 0.37 | -1.89 | -0.42 |
| Millennium Challenge Corporation | -0.14 | 0.53 | -1.20 | 0.89 |
| Mine Safety and Health Administration (DOL) | -0.25 | 0.44 | -1.12 | 0.62 |
| Missile Defense Agency (DOD) | 0.35 | 0.46 | -0.64 | 1.15 |
| National Aeronautics and Space Administration | 1.26 | 0.29 | 0.70 | 1.84 |
| National Agricultural Statistics Service (USDA) | 0.90 | 0.20 | 0.54 | 1.31 |
| National Archives and Records Administration | 0.03 | 0.30 | -0.58 | 0.61 |
| National Cemetery Administration (VA) | 0.94 | 0.36 | 0.23 | 1.64 |
| National Credit Union Administration | -1.13 | 1.74 | -4.85 | 2.17 |
| National Foundation on the Arts and the Humanities | 0.77 | 0.99 | -1.29 | 2.72 |
| National Guard Bureau (DOD) | -0.44 | 0.52 | -1.42 | 0.64 |
| National Highway Traffic Safety Administration (DOT) | 0.15 | 0.31 | -0.46 | 0.73 |
| National Institute of Standards and Technology (COM) | 0.34 | 0.44 | -0.51 | 1.18 |
| National Institutes of Health (HHS) | 1.83 | 0.17 | 1.49 | 2.17 |
| National Labor Relations Board | -0.01 | 0.54 | -1.16 | 1.02 |
| National Nuclear Security Administration (DOE) | 0.68 | 0.41 | -0.21 | 1.38 |
| National Oceanic and Atmospheric Administration (COM) | 0.34 | 0.20 | -0.05 | 0.74 |
| National Park Service (DOI) | 0.32 | 0.22 | -0.10 | 0.74 |
| National Railroad Passenger Corporation (AMTRAK) | -1.88 | 1.59 | -4.87 | 1.35 |
| National Science Foundation | 1.33 | 0.32 | 0.72 | 1.98 |
| National Security Staff | 0.15 | 0.15 | -0.15 | 0.43 |
| National Transportation Safety Board | 1.16 | 0.41 | 0.36 | 2.02 |
| Natural Resources Conservation Service (USDA) | -0.08 | 0.17 | -0.42 | 0.25 |
| Nuclear Regulatory Commission | 1.23 | 0.28 | 0.67 | 1.79 |
| Occupational Safety and Health Administration (DOL) | 0.02 | 0.22 | -0.41 | 0.44 |
| Office of Electricity Delivery and Energy Reliability (DOE) | -0.81 | 0.62 | -2.01 | 0.45 |
| Office of Elementary and Secondary Education (ED) | -0.05 | 0.40 | -0.83 | 0.74 |
| Office of Energy Efficiency and Renewable Energy (DOE) | -0.10 | 0.26 | -0.62 | 0.42 |
| Office of Environmental Management (DOE) | -1.85 | 0.39 | -2.65 | -1.09 |
| Office of Federal Student Aid (ED) | 0.55 | 0.25 | 0.06 | 1.05 |
| Office of Fossil Energy (DOE) | -0.93 | 0.40 | -1.73 | -0.11 |
| Office of Government Ethics | 0.04 | 0.38 | -0.70 | 0.80 |
| Office of Legal Counsel (DOJ) | 1.25 | 0.25 | 0.78 | 1.75 |
| Office of Management and Budget | -0.36 | 0.07 | -0.50 | -0.23 |
| Office of National Drug Control Policy | -0.94 | 0.35 | -1.64 | -0.23 |

| | | | | |
|---|---|---|---|---|
| Office of Nuclear Energy (DOE) | 0.79 | 0.32 | 0.20 | 1.44 |
| Office of Personnel Management | -1.58 | 0.08 | -1.74 | -1.43 |
| Office of Postsecondary Education (ED) | -0.22 | 0.39 | -1.00 | 0.54 |
| Office of Science (DOE) | 0.65 | 0.41 | -0.16 | 1.45 |
| Office of Science and Technology Policy | 0.14 | 0.21 | -0.27 | 0.56 |
| Office of Special Counsel | -0.84 | 0.42 | -1.71 | -0.04 |
| Office of the Comptroller of the Currency (TREAS) | 0.86 | 0.20 | 0.48 | 1.26 |
| Office of the Director of National Intelligence | 0.78 | 0.29 | 0.21 | 1.38 |
| Office of the Secretary of Defense (DOD) | 0.27 | 0.13 | 0.01 | 0.54 |
| Office of the United States Trade Representative | 0.52 | 0.32 | -0.09 | 1.17 |
| Overseas Private Investment Corporation | 0.34 | 0.91 | -1.18 | 1.80 |
| Peace Corps | 0.07 | 0.47 | -0.82 | 1.03 |
| Political Affairs (STAT) | 0.92 | 0.49 | -0.01 | 1.88 |
| Public Diplomacy and Public Affairs (STAT) | 0.24 | 0.33 | -0.34 | 0.96 |
| Rural Housing Service (USDA) | -0.39 | 0.33 | -1.05 | 0.23 |
| Secret Service (DHS) | 1.03 | 0.38 | 0.31 | 1.82 |
| Securities and Exchange Commission | 0.42 | 0.32 | -0.22 | 1.05 |
| Small Business Administration | -1.28 | 0.30 | -1.88 | -0.71 |
| Social Security Administration | -0.70 | 0.24 | -1.17 | -0.22 |
| The Federal Reserve | 1.80 | 0.21 | 1.38 | 2.21 |
| Transportation Security Administration (DHS) | -1.77 | 0.33 | -2.47 | -1.14 |
| U.S. Census Bureau (COM) | 0.42 | 0.24 | -0.03 | 0.89 |
| U.S. Fish and Wildlife Service (DOI) | 0.24 | 0.20 | -0.15 | 0.62 |
| U.S. Geological Survey (DOI) | 1.42 | 0.22 | 0.95 | 1.84 |
| U.S. Mint (TREAS) | -0.73 | 0.50 | -1.71 | 0.33 |
| U.S. Patent and Trademark Office (COM) | 0.45 | 0.55 | -0.69 | 1.47 |
| United States Agency for International Development | -0.26 | 0.21 | -0.66 | 0.16 |
| United States Citizenship and Immigration Services (DHS) | -1.27 | 0.27 | -1.80 | -0.75 |
| United States Customs and Border Protection (DHS) | 0.15 | 0.21 | -0.27 | 0.56 |
| United States Immigration and Customs Enforcement (DHS) | -0.75 | 0.33 | -1.40 | -0.10 |
| United States Postal Service | -1.41 | 0.47 | -2.33 | -0.49 |
| Veterans Benefits Administration (VA) | -1.04 | 0.31 | -1.66 | -0.43 |
| Veterans Health Administration (VA) | 0.29 | 0.25 | -0.20 | 0.77 |
| Wage and Hour Division (DOL) | -0.34 | 0.24 | -0.82 | 0.13 |

**Figure A.12 Comparison of Perceived Skill Estimates with and without Informed Priors**



Note: Plots include a 45-degree line.

## Table A4. Rating Information for Estimates of Perceived Agency Workforce Skill

| Agency | Acronym | Multirater Model | | | All Ratings | | |
|---|---|---|---|---|---|---|---|
| | | Informed | All | Prop. Informed | Informed | All | Prop. Informed |
| **Executive Office of the President** | | | | | | | |
| Council of Economic Advisors | CEA | 22 | 32 | 0.69 | 22 | 33 | 0.67 |
| Council on Environmental Quality | CEQ | 44 | 53 | 0.83 | 45 | 54 | 0.83 |
| National Security Staff | NSS | 147 | 168 | 0.88 | 148 | 169 | 0.88 |
| Office of Management and Budget | OMB | 390 | 1,593 | 0.24 | 425 | 1,686 | 0.25 |
| Office of National Drug Control Policy | ONDCP | 11 | 15 | 0.73 | 13 | 17 | 0.76 |
| Office of Science and Technology Policy | OSTP | 70 | 85 | 0.82 | 71 | 86 | 0.83 |
| Office of the United States Trade Representative | USTR | 37 | 47 | 0.79 | 38 | 48 | 0.79 |
| **Department of Agriculture** | USDA | 118 | 131 | 0.90 | 137 | 151 | 0.91 |
| Agricultural Marketing Service | AMS | 16 | 27 | 0.59 | 16 | 28 | 0.57 |
| Agricultural Research Service | ARS | 17 | 31 | 0.55 | 18 | 33 | 0.55 |
| Animal and Plant Health Inspection Service | APHIS | 36 | 49 | 0.73 | 38 | 52 | 0.73 |
| Farm Service Agency | FSA | 18 | 26 | 0.69 | 22 | 30 | 0.73 |
| Food and Nutrition Service | FNS | 17 | 30 | 0.57 | 18 | 31 | 0.58 |
| Food Safety and Inspection Service | FSIS | 19 | 32 | 0.59 | 21 | 34 | 0.62 |
| Forest Service | FS | 51 | 67 | 0.76 | 52 | 68 | 0.76 |
| National Agricultural Statistics Service | NASS | 16 | 31 | 0.52 | 17 | 33 | 0.52 |
| Natural Resources Conservation Service | NRCS | 38 | 48 | 0.79 | 42 | 52 | 0.81 |
| Rural Housing Service | RHS | 11 | 20 | 0.55 | 14 | 23 | 0.61 |
| **Department of Commerce** | COM | 68 | 93 | 0.73 | 73 | 98 | 0.74 |
| Bureau of Economic Analysis | BEA | 10 | 19 | 0.53 | 10 | 19 | 0.53 |
| International Trade Administration | ITA | 28 | 38 | 0.74 | 30 | 40 | 0.75 |
| National Institute of Standards and Technology | NIST | 15 | 31 | 0.48 | 15 | 31 | 0.48 |
| National Oceanic and Atmospheric Administration | NOAA | 58 | 72 | 0.81 | 58 | 72 | 0.81 |
| U.S. Census Bureau | USBC | 22 | 39 | 0.56 | 25 | 42 | 0.60 |
| U.S. Patent and Trademark Office | PTO | 2 | 14 | 0.14 | 2 | 14 | 0.14 |
| **Department of Defense** | DOD | 243 | 260 | 0.93 | 266 | 283 | 0.94 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Defense Advanced Research Projects Agency | DARPA | 10 | 20 | 0.50 | 10 | 20 | 0.50 |
| Defense Commissary Agency | DECA | 0 | 13 | 0.00 | 0 | 13 | 0.00 |
| Defense Contract Audit Agency | DCAA | 3 | 22 | 0.14 | 3 | 22 | 0.14 |
| Defense Contract Management Agency | DCMA | 13 | 23 | 0.57 | 14 | 24 | 0.58 |
| Defense Finance and Accounting Service | DFAS | 9 | 22 | 0.41 | 10 | 23 | 0.43 |
| Defense Health Agency | DHA | 9 | 16 | 0.56 | 10 | 17 | 0.59 |
| Department of the Air Force | USAF | 61 | 74 | 0.82 | 67 | 80 | 0.84 |
| Department of the Army | ARMY | 73 | 83 | 0.88 | 77 | 87 | 0.89 |
| Department of the Navy | NAVY | 57 | 72 | 0.79 | 59 | 74 | 0.80 |
| Joint Chiefs of Staff | JCS | 29 | 41 | 0.71 | 30 | 42 | 0.71 |
| Missile Defense Agency | MDA | 8 | 16 | 0.50 | 8 | 17 | 0.47 |
| National Guard Bureau | NGB | 7 | 23 | 0.30 | 7 | 23 | 0.30 |
| Office of the Secretary of Defense | SecDOD | 133 | 140 | 0.95 | 142 | 149 | 0.95 |
| **Department of Education** | ED | 43 | 55 | 0.78 | 47 | 61 | 0.77 |
| Institute of Education Sciences | IES | 7 | 23 | 0.30 | 7 | 23 | 0.30 |
| Office of Elementary and Secondary Education | OESE | 13 | 24 | 0.54 | 14 | 25 | 0.56 |
| Office of Federal Student Aid | StAid | 4 | 19 | 0.21 | 4 | 19 | 0.21 |
| Office of Postsecondary Education | OPE | 6 | 24 | 0.25 | 6 | 24 | 0.25 |
| **Department of Energy** | DOE | 63 | 74 | 0.85 | 71 | 82 | 0.87 |
| Energy Information Administration | EIA | 10 | 12 | 0.83 | 12 | 14 | 0.86 |
| Federal Energy Regulatory Commission | FERC | 3 | 6 | 0.50 | 3 | 6 | 0.50 |
| National Nuclear Security Administration | NNSA | 25 | 29 | 0.86 | 26 | 30 | 0.87 |
| Office of Electricity Delivery and Energy Reliability | OE | 1 | 11 | 0.09 | 1 | 11 | 0.09 |
| Office of Energy Efficiency and Renewable Energy | EERE | 13 | 26 | 0.50 | 15 | 28 | 0.54 |
| Office of Environmental Management | EM | 10 | 17 | 0.59 | 10 | 18 | 0.56 |
| Office of Fossil Energy | FE | 3 | 10 | 0.30 | 3 | 10 | 0.30 |
| Office of Nuclear Energy | NE | 5 | 12 | 0.42 | 5 | 12 | 0.42 |
| Office of Science | SC | 16 | 26 | 0.62 | 16 | 26 | 0.62 |
| **Department of Health and Human Services** | HHS | 138 | 156 | 0.88 | 153 | 171 | 0.89 |
| Administration for Children and Families | ACF | 28 | 49 | 0.57 | 28 | 49 | 0.57 |
| Centers for Disease Control and Prevention | CDC | 74 | 104 | 0.71 | 79 | 109 | 0.72 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Centers for Medicare and Medicaid Services | CMS | 46 | 74 | 0.62 | 49 | 77 | 0.64 |
| Food and Drug Administration | FDA | 58 | 84 | 0.69 | 63 | 89 | 0.71 |
| Health Resources and Services Administration | HRSA | 26 | 44 | 0.59 | 26 | 44 | 0.59 |
| Indian Health Service | IHS | 13 | 30 | 0.43 | 13 | 30 | 0.43 |
| National Institutes of Health | NIH | 59 | 86 | 0.69 | 64 | 91 | 0.70 |
| **Department of Homeland Security** | DHS | 147 | 174 | 0.84 | 150 | 177 | 0.85 |
| Citizenship and Immigration Services | USCIS | 9 | 19 | 0.47 | 9 | 19 | 0.47 |
| Coast Guard | USCG | 31 | 47 | 0.66 | 32 | 48 | 0.67 |
| Customs and Border Protection | USCBP | 32 | 43 | 0.74 | 35 | 46 | 0.76 |
| Federal Emergency Management Agency | FEMA | 39 | 48 | 0.81 | 42 | 51 | 0.82 |
| Immigration and Customs Enforcement | ICE | 22 | 31 | 0.71 | 22 | 31 | 0.71 |
| Secret Service | USSS | 9 | 22 | 0.41 | 10 | 23 | 0.43 |
| Transportation Security Administration | TSA | 7 | 19 | 0.37 | 7 | 19 | 0.37 |
| **Department of Housing and Urban Development** | HUD | 60 | 71 | 0.85 | 65 | 76 | 0.86 |
| Federal Housing Administration | FHA | 13 | 33 | 0.39 | 16 | 36 | 0.44 |
| Government National Mortgage Association | Ginnie Mae | 1 | 20 | 0.05 | 1 | 20 | 0.05 |
| Department of the Interior | DOI | 85 | 99 | 0.86 | 90 | 105 | 0.86 |
| Bureau of Indian Affairs | BIA | 17 | 36 | 0.47 | 18 | 37 | 0.49 |
| Bureau of Land Management | BLM | 25 | 47 | 0.53 | 25 | 47 | 0.53 |
| Bureau of Reclamation | BOR | 14 | 29 | 0.48 | 14 | 29 | 0.48 |
| National Park Service | NPS | 29 | 53 | 0.55 | 35 | 59 | 0.59 |
| U.S. Fish and Wildlife Service | FWS | 52 | 66 | 0.79 | 54 | 68 | 0.79 |
| U.S. Geological Survey | USGS | 31 | 51 | 0.61 | 31 | 51 | 0.61 |
| **Department of Justice** | DOJ | 237 | 259 | 0.92 | 266 | 289 | 0.92 |
| Bureau of Alcohol, Tobacco, Firearms and Explosives | ATF | 13 | 24 | 0.54 | 13 | 24 | 0.54 |
| Bureau of Prisons | BOP | 7 | 27 | 0.26 | 7 | 27 | 0.26 |
| Drug Enforcement Administration | DEA | 23 | 35 | 0.66 | 23 | 35 | 0.66 |
| Executive Office for United States Attorneys | EOUSA | 27 | 39 | 0.69 | 29 | 41 | 0.71 |
| Federal Bureau of Investigation | FBI | 73 | 87 | 0.84 | 79 | 93 | 0.85 |
| Office of Legal Counsel | OLC | 21 | 37 | 0.57 | 21 | 38 | 0.55 |
| **Department of Labor** | DOL | 71 | 80 | 0.89 | 80 | 90 | 0.89 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Bureau of Labor Statistics | BLS | 17 | 37 | 0.46 | 20 | 41 | 0.49 |
| Employment and Training Administration | ETA | 17 | 34 | 0.50 | 17 | 34 | 0.50 |
| Mine Safety and Health Administration | MSHA | 3 | 22 | 0.14 | 5 | 24 | 0.21 |
| Occupational Safety and Health Administration | OSHA | 25 | 36 | 0.69 | 26 | 38 | 0.68 |
| Wage and Hour Division | WHD | 12 | 29 | 0.41 | 12 | 31 | 0.39 |
| **Department of State** | STAT | 149 | 162 | 0.92 | 158 | 171 | 0.92 |
| Arms Control and International Security | T | 10 | 26 | 0.38 | 11 | 27 | 0.41 |
| Bureau of Consular Affairs | BCA | 7 | 26 | 0.27 | 7 | 26 | 0.27 |
| Bureau of Diplomatic Security | DS | 5 | 27 | 0.19 | 5 | 27 | 0.19 |
| Bureau of Int. Narcotics and Law Enforcement Affairs | INL | 3 | 18 | 0.17 | 3 | 18 | 0.17 |
| Civilian Security, Democracy, and Human Rights | J | 7 | 26 | 0.27 | 7 | 27 | 0.26 |
| Economic Growth, Energy, and the Environment | E | 24 | 36 | 0.67 | 25 | 37 | 0.68 |
| Political Affairs | P | 9 | 30 | 0.30 | 10 | 31 | 0.32 |
| Public Diplomacy and Public Affairs | R | 13 | 43 | 0.30 | 14 | 45 | 0.31 |
| **Department of Transportation** | DOT | 70 | 82 | 0.85 | 76 | 88 | 0.86 |
| Federal Aviation Administration | FAA | 31 | 43 | 0.72 | 36 | 49 | 0.73 |
| Federal Highway Administration | FHWA | 25 | 37 | 0.68 | 26 | 38 | 0.68 |
| Federal Motor Carrier Safety Administration | FMCSA | 10 | 22 | 0.45 | 11 | 23 | 0.48 |
| Federal Transit Administration | FTA | 8 | 21 | 0.38 | 8 | 22 | 0.36 |
| National Highway Traffic Safety Administration | NHTSA | 8 | 21 | 0.38 | 9 | 22 | 0.41 |
| **Department of the Treasury** | TREAS | 106 | 119 | 0.89 | 113 | 126 | 0.90 |
| Bureau of Engraving and Printing | BEP | 4 | 14 | 0.29 | 5 | 15 | 0.33 |
| Bureau of the Fiscal Service | BFS | 24 | 33 | 0.73 | 28 | 37 | 0.76 |
| Financial Crimes Enforcement Network | FINCEN | 6 | 12 | 0.50 | 7 | 13 | 0.54 |
| Internal Revenue Service | IRS | 45 | 49 | 0.92 | 53 | 57 | 0.93 |
| Office of the Comptroller of the Currency | OCC | 24 | 31 | 0.77 | 26 | 33 | 0.79 |
| U.S. Mint | USMINT | 2 | 8 | 0.25 | 3 | 9 | 0.33 |
| **Department of Veterans Affairs** | VA | 56 | 73 | 0.77 | 65 | 82 | 0.79 |
| National Cemetery Administration | NCA | 4 | 40 | 0.10 | 4 | 41 | 0.10 |
| Veterans Benefits Administration | VBA | 15 | 41 | 0.37 | 16 | 43 | 0.37 |
| Veterans Health Administration | VHA | 22 | 46 | 0.48 | 23 | 47 | 0.49 |

| Administrative Conference of the United States | ACUS | NA | NA | NA | 1 | 5 | 0.20 |
|---|---|---|---|---|---|---|---|
| Broadcasting Board of Governors | BBG | 1 | 10 | 0.10 | 1 | 10 | 0.10 |
| Central Intelligence Agency | CIA | 30 | 41 | 0.73 | 31 | 42 | 0.74 |
| Commodity Futures Trading Commission | CFTC | 22 | 33 | 0.67 | 24 | 35 | 0.69 |
| Consumer Financial Protection Bureau | CFPB | 23 | 34 | 0.68 | 26 | 38 | 0.68 |
| Consumer Product Safety Commission | CPSC | 4 | 12 | 0.33 | 4 | 12 | 0.33 |
| Corporation for National and Community Service | CNCS | 5 | 14 | 0.36 | 5 | 14 | 0.36 |
| Environmental Protection Agency | EPA | 96 | 118 | 0.81 | 98 | 120 | 0.82 |
| Equal Employment Opportunity Commission | EEOC | 35 | 50 | 0.70 | 36 | 51 | 0.71 |
| Export-Import Bank of the U.S. | EIB | 5 | 8 | 0.63 | 5 | 8 | 0.63 |
| Farm Credit Administration | FCA | NA | NA | NA | 0 | 4 | 0.00 |
| Federal Communications Commission | FCC | 17 | 23 | 0.74 | 17 | 23 | 0.74 |
| Federal Deposit Insurance Corporation | FDIC | 36 | 49 | 0.73 | 40 | 53 | 0.75 |
| Federal Election Commission | FEC | NA | NA | NA | 1 | 4 | 0.25 |
| Federal Home Loan Mortgage Corporation | Freddie Mac | 2 | 6 | 0.33 | 2 | 6 | 0.33 |
| Federal Housing Finance Agency | FHFA | 15 | 19 | 0.79 | 15 | 19 | 0.79 |
| Federal Labor Relations Authority | FLRA | 4 | 15 | 0.27 | 4 | 15 | 0.27 |
| Federal Maritime Commission | FMC | NA | NA | NA | 2 | 6 | 0.33 |
| Federal Mediation and Conciliation Service | FMCS | 5 | 17 | 0.29 | 5 | 17 | 0.29 |
| Federal National Mortgage Association | Fannie Mae | NA | NA | NA | 1 | 3 | 0.33 |
| Federal Reserve | Fed | 43 | 56 | 0.77 | 44 | 57 | 0.77 |
| Federal Trade Commission | FTC | 12 | 20 | 0.60 | 12 | 20 | 0.60 |
| General Services Administration | GSA | 90 | 118 | 0.76 | 93 | 121 | 0.77 |
| Legal Services Corporation | LSC | NA | NA | NA | 0 | 4 | 0.00 |
| Merit Systems Protection Board | MSPB | 8 | 24 | 0.33 | 9 | 25 | 0.36 |
| Millennium Challenge Corporation | MCC | 6 | 14 | 0.43 | 6 | 14 | 0.43 |
| National Aeronautics and Space Administration | NASA | 22 | 43 | 0.51 | 24 | 45 | 0.53 |
| National Archives and Records Administration | NARA | 13 | 25 | 0.52 | 14 | 26 | 0.54 |
| National Credit Union Administration | NCUA | 1 | 5 | 0.20 | 1 | 5 | 0.20 |
| National Foundation on the Arts and the Humanities | ARTS | 3 | 8 | 0.38 | 3 | 8 | 0.38 |
| National Labor Relations Board | NLRB | 6 | 22 | 0.27 | 6 | 22 | 0.27 |

| National Railroad Passenger Corporation (AMTRAK) | AMTRAK | 3 | 7 | 0.43 | 4 | 9 | 0.44 |
|---|---|---|---|---|---|---|---|
| National Science Foundation | NSF | 29 | 43 | 0.67 | 32 | 46 | 0.70 |
| National Transportation Safety Board | NTSB | 7 | 17 | 0.41 | 8 | 18 | 0.44 |
| Nuclear Regulatory Commission | NRC | 17 | 25 | 0.68 | 18 | 27 | 0.67 |
| Office of Government Ethics | OGE | 10 | 21 | 0.48 | 11 | 22 | 0.50 |
| Office of Personnel Management | OPM | 112 | 1,432 | 0.08 | 117 | 1,514 | 0.08 |
| Office of Special Counsel | OSC | 13 | 27 | 0.48 | 13 | 27 | 0.48 |
| Office of the Director of National Intelligence | ODNI | 22 | 35 | 0.63 | 23 | 36 | 0.64 |
| Overseas Private Investment Corporation | OPIC | 2 | 5 | 0.40 | 2 | 5 | 0.40 |
| Peace Corps | PC | 9 | 20 | 0.45 | 11 | 22 | 0.50 |
| Railroad Retirement Board | RRB | NA | NA | NA | 2 | 4 | 0.50 |
| Securities and Exchange Commission | SEC | 16 | 28 | 0.57 | 18 | 30 | 0.60 |
| Small Business Administration | SBA | 31 | 45 | 0.69 | 32 | 46 | 0.70 |
| Social Security Administration | SSA | 35 | 47 | 0.74 | 36 | 48 | 0.75 |
| Tennessee Valley Authority | TVA | NA | NA | NA | 1 | 1 | 1.00 |
| United States Agency for International Development | USAID | 70 | 80 | 0.88 | 72 | 82 | 0.88 |
| United States International Trade Commission | USITC | NA | NA | NA | 1 | 4 | 0.25 |
| United States Postal Service | USPS | 16 | 33 | 0.48 | 17 | 34 | 0.50 |