Presidential Control and Interagency Relationships *

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Abstract

Collaboration among federal agencies is a fundamental feature of administrative policymaking in the United States and has important consequences for political control. The prevalence of interagency policymaking has received significant recent scholarly attention but it has been difficult to characterize empirically. In this paper, we present a novel measure of interagency relationships based on data from the 2014 and 2020 Surveys on the Future of Government Service. In these surveys thousands of appointed and career federal executives identified their collaborative partners. We use this data to characterize interagency relationships. We first present a descriptive overview, finding that 64.8 percent of agencies have a strong tie to at least one agency other than their own, and 8 percent of agencies have strong ties to ten or more agencies other than their own. We then illustrate the importance of these connections by evaluating the consequences of this network structure for the appointment strategy of Presidents Trump and Biden. Agencies more central to interagency work get vacancies filled more quickly than other agencies. We conclude with the implications of this interagency work for political control of the bureaucracy.

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1 Introduction

In October of 2023, President Biden issued an executive order regulating the development and use of artificial intelligence (The White House, 2023). Among the administration's goals were to protect consumers from fraud and misinformation, avoid market concentration among firms, preserve intellectual property, position U.S. firms to compete with China, and responsibly develop applications for artificial intelligence in health care, finance, and national security. No single agency exists which can unilaterally accomplish each of these goals. Instead, the executive order divided regulatory responsibility among over a dozen different agencies. These agencies—some of whom have dramatically different missions and priorities—must work together to implement the President's plan.

The president's proposed interagency regulation of AI is just one example of the importance of interagency work in modern governance. Assessments of government action in areas as diverse as the 9/11 terrorist attacks, federal hurricane response, climate change, Wall Street regulation, and immigration have emphasized the relevance of interagency work to delivering desired policy outcomes (National Commission on Terrorist Attacks upon the United States, 2004; Cooper and Block, 2007; Freeman and Rossi, 2012; Kaiser, 2014). The earliest administrative histories of the United States, written about a relatively small bureaucracy grouped largely into three executive departments, emphasized the challenges associated with interagency work (White, 1949). Collaboration between agencies is an inescapable facet of administrative design and has only become more common as government work has broadened in scope and deepened in complexity (Kaiser, 2011; McGuire, 2006).

Foundational models of political control of the bureaucracy focus on the relationship between a single principal—such as a president or congressional committee—and a single agent. More recent scholarship has increasingly focused on the complications introduced by multiple and collective principals (see, e.g., Gailmard, 2009: Nielson and Tierney, 2003; Whitford, 2005) and delegation to multiple agents (see, e.g., Bils, 2020; Farhang and Yaver, 2016; Freeman and Rossi, 2012; Napolio, 2023; Napolio, n.d.; Ting, 2003). However, given that the relationships between agencies are difficult to observe, this aspect of modern governance has been challenging to characterize empirically apart from visible participation in rulemaking (Napolio, 2023; Saito, N.d.).

In this paper, we introduce a novel measure of interagency relationships based on data from the 2014 and 2020 Surveys on the Future of Government Service (Richardson et al., 2018; Richardson, 2019). In these surveys, thousands of appointed and career federal executives identified their collaborative partners. We use this data to develop a map of agency relationships. We first present a descriptive

overview of interagency connections, finding that 64.8 percent of agencies have a strong tie to at least one agency other than their own, and 8 percent of agencies have strong ties to ten or more agencies. We then use these connections to develop a measure of an agency's relative centrality within the broader network (Larson, 2024). We then illustrate the importance of these connections by evaluating the consequences of this network structure for the president's appointments strategy. These analyses reveal that President Trump and President Biden filled vacancies more quickly in agencies more central to interagency work. We conclude with the implications of interagency relationships for efforts by elected officials to control the bureaucracy.

2 Interagency Collaboration in Modern Governance

Elected officials designing administrative structures have long understood the benefits of interagency processes and, even when they have had concerns about the problems of interagency processes, they have found it impossible to avoid overlapping jurisdictions. Forcing agencies to work together in policy creation and implementation can provide useful redundancy in important systems (Landau, 1969). It can also facilitate the introduction of useful information into the design and implementation of key policies (Freeman and Rossi, 2012). In a world of complex public policy problems, where it is difficult to map choices to certain outcomes, diverse sources of information can improve decisions (Callander, 2011). Interagency work can also be a means of securing political support, with each agency representing different political interests or patrons (Napolio, 2023). Forced participation by multiple parties helps ensure that decisions are acceptable to multiple parties and key decision makers are not taken by surprise (McCubbins and Schwartz, 1984; McCubbins et al., 1987).[1]

Of course, there are contexts in which interagency may work undermine policymaking outcomes. Interagency work has the potential to slow decisions, create collective action problems, reduce the quality and clarity of decisions due to compromise outcomes, and decrease accountability (Herrera et al., 2017; Moe, 1989; Pressman and Wildavsky, 1984; Ting, 2003). Variation in position in networks can influence the success or failure agencies have in policymaking (Devins and Lewis, 2022; Lewis et al., 2020). Indeed, sometimes separating jointly supervised or coordinated processes can increase accountability and reduce transaction costs (Berry and Gersen, 2008).

[1]The political opponents of an agency sometimes work to require interagency processes to protect their own interests by slowing agency processes and adding veto points (MacDonald, 2007; Moe, 1989).

2.1 Inevitability of Jurisdictional Overlap

Elected officials have a difficult time maintaining clear jurisdictions even when they desire to do so. The increasing scope of government responsibility makes it difficult to avoid jurisdictional overlap. It is simply not feasible to have a separate organization for each unique task. President Obama famously criticized the federal government's overlapping regulation of salmon, noting "the Interior Department is in charge of salmon while they're in freshwater, but the Commerce Department handles them when they're in saltwater. I hear it gets even more complicated once they're smoked" (Obama, 2011). Yet, it is hard to imagine how to set up regulators for oceans, fisheries, and food safety that would not share jurisdiction over salmon.

Government problems do not neatly fall into discrete categories (Kettl, 2024). Some problems are defined by particular purposes; others are specific to particular clients, identifiable regions, or shared tasks. For example, programs and agencies that target the unique problems of veterans (e.g., health care, benefits, housing, education) are going to share jurisdiction with health, social welfare, and education agencies. Similarly, attempts to improve efficiency by removing duplication in processes like financial management or legal services means that affected offices will naturally interact with other offices for these services. Some degree of collaboration between agencies is inevitable.

To complicate matters, elected officials may be unaware of how their choices affect interagency collaboration; in some cases, they may even prefer structures which make agency policymaking more difficult (Moe, 1989). The Brownlow Committee famously described how piecemeal attempts by Congress to solve specific problems led to a chaotic and disorganized executive branch (U.S. President's Committee on Administrative Management, 1937). Congressional committees with overlapping jurisdictions produce legislation and think about structure in the context of their own committee's jurisdiction (Zegart, 1999). When committees and chambers negotiate over structure, compromise can lead to unresolved jurisdictional conflicts. Agencies themselves may also have incentives to strategically work with other agencies as a way of making it more difficult for Congress itself to direct agency action (Napolio, 2023; Napolio, n.d.).

2.2 Hierarchy and Interagency Processes to Deal with Overlap

Political actors alleviate the natural conflicts that arise among programs and agencies with overlapping jurisdiction by creating more hierarchy or mandating interagency processes. The proliferation of czars in the White House is a symptom of the broad shared jurisdiction in areas as diverse as climate change,

drug policy, COVID-19, and American competitiveness (see, e.g., Vaughn and Villalobos, 2015). White House aides empowered by the president are responsible for coordinating across agencies. In the United States, presidents have placed centralized oversight agencies like the Office of Management and Budget and Office of Legal Counsel atop common shared areas of process such as budgets, regulation, procurement, and legal advice. More dramatically, elected officials combine diverse agencies and programs under new hierarchical leadership. For example, efforts to coordinate fragmented homeland security and intelligence responsibilities led to the creation of the Department of Homeland Security and the Office of the Director of National Intelligence, respectively. These major reorganizations created new hierarchy while leaving most parts of the component agencies intact.

Less visible and vastly more common are a variety interagency processes. These processes are formalized in documents like executive orders or memoranda of understanding negotiated among agencies. Sometimes elected officials designate a lead agency; in other cases, the form of interagency work is more fluid, from intensive cooperation via permanent committees to simple clearance processes. The ubiquity of overlapping jurisdictions forces agencies to work with one another.

2.3 Where Do Agencies Fit in the Interconnected Executive?

While interagency work is increasingly common, not are all relationships between agencies the same. When there is jurisdictional overlap, the degree of interaction such overlap requires varies from intermittent to structured and constant (McGuire, 2006). Some agencies are involved in regular and structured interactions, while other agencies only have weaker and more episodic ties to other agencies. Agencies like the National Institute of Standards and Technology and the Federal Trade Commission are central to the federal government's regulation of AI; other agencies such as the Department of Education or the Consumer Financial Protection Bureau may share some responsibility for regulation but are generally less involved.

Indeed, on a host of issues some agencies are more central to the operations of the executive branch than others (Devins and Lewis, 2022). An agency's centrality within the network can come from three sources: the breadth of its jurisdiction and responsibilities, its access to resources that other agencies need to complete their own responsibilities, and its position within a formal or informal hierarchy.

First, agencies may vary in centrality because of the scope of their responsibilities. The National Cemetery Administration administers veterans cemeteries; the Railroad Retirement Board provides benefits to railroad workers and their families. These agencies manage reasonably discrete policy

areas, and rarely have reason to participate in large interagency efforts. Other agencies are central to many executive branch actions precisely because of their broad jurisdiction. Agencies may have broad jurisdictions because of their topic, such as those covering legal issues or foreign policy, or because they have accumulated new responsibilities over time, such as the Department of Agriculture.

Second, some agencies may control access to resources—whether personnel, funding, or expertise—which other agencies require to achieve their goals but do not have themselves. An agency that needed legal or military expertise rarely has a choice but to go the Department of Justice or Department of Defense. Other agencies accumulate expertise in a given policy area (Carpenter, 2002) which other agencies must rely upon to implement policy effectively.

Third, some agencies have broad reach because of their position in the hierarchy. Insider larger departments, bureaus wait for sign off from someone in the Office of the Secretary. Elected officials have designed other agencies to sit atop particular processes in order bring control and coherence to executive branch action (Wiseman, 2009). For example, agencies must wait while the Office of Management and Budget reviews proposed regulations and budgets or the Office of Legal Counsel makes a legal determination.

3 Presidential Management and Interagency Processes

The presence of interagency relationships creates three key challenges for presidential control of the executive branch and influence the president's approach to personnel. First, significant jurisdictional overlap increases the transaction costs of decision and action. Interagency action comes in various forms—such as formalized negotiations, interagency committees, or simple clearance procedures—each of which requires time and resources. Negotiating among agencies requires careful drafting, back-and-forth, and high level approval. Interagency groups must select members, schedule times to meet, come to agreement, and see those efforts through in agencies that may or may not be enthusiastic about the work. Clearance procedures can delay action when agencies disagree. Even when presidents designate a lead agency for joint action, the lead agency may still be dependent on other agencies to do what the president asks. What may appear to the president as an agency being unresponsive may instead be that the agency is waiting on others before it can make decisions or take actions.

Second, the transaction costs of action are accentuated by collective action problems. Even if it is in each agency's interest to see a decision made in an area of shared responsibility, the challenges to observing each agency's contributions may result in little incentive to lead or expend effort. These

efforts are further complicated by the fact that agencies may not prioritize the interagency effort. Each agency leader has limited time, resources, and talented personnel; they allocate each resource strategically toward the tasks that are most important to the agency and administration. This often means that agencies will not invest their best efforts toward accomplishing tasks that are outside their core missions. Agency leaders concerned with protecting turf or avoiding being blamed for outcomes over which they have no control will notoriously avoid interagency work (Wilson, 1989; Zegart, 1999).

Finally, structures for resolving jurisdictional disputes add veto points to the administrative process. From hierarchy to clearance procedures, efforts to facilitate interagency action empower some officials to slow or stop administrative action. While decisions under the control of one official or one agency can be made directly, those requiring cooperation or approval add choke points in the decision-making process.

3.1 Presidents and Personnel in Managing Interagency Work

Given increased transaction costs, collective action problems, and veto points, presidents must be strategic in efforts to manage administrative action. This is fundamentally a process that involves personnel: presidents must select officials quickly and carefully for positions that are central to these executive branch processes. Some agencies and positions are more central to the administrative process, particularly for presidential priorities. This can be agencies with jurisdictions that touch lots of other agencies, such as Department of Defense or Department of Justice. It can also be positions at the top of the hierarchy of interagency processes, such as central management agencies like OMB or Office of Legal Counsel, or positions in the Office of the Secretary.

New presidents inherit about 1,339 Senate confirmed positions (PAS) in the Executive Branch. Out of this number about 1,100 are vacant at the start of an administration; the remainder are filled with persons serving fixed terms that carry over from one administration to the next. The PAS positions vary from secretaries of the executive departments to ambassadors, U.S. marshals, and members of minor boards and commissions.

Given the large number of vacant positions, presidents must prioritize which positions to nominate first. Traditionally, presidents have prioritized the heads of the executive departments, key national security and economic policy positions, and other positions central to the presidents policy agenda (Bednar and Lewis, 2024). Given the interagency structure of administrative action, presidents should also prioritize positions in agencies central to these processes. This includes the kinds of agencies

discussed above like the Office of the Secretary in various departments and central management agencies but also agencies central to interagency processes that are hard to observe through formal roles and designations.

4 Mapping Interagency Interactions

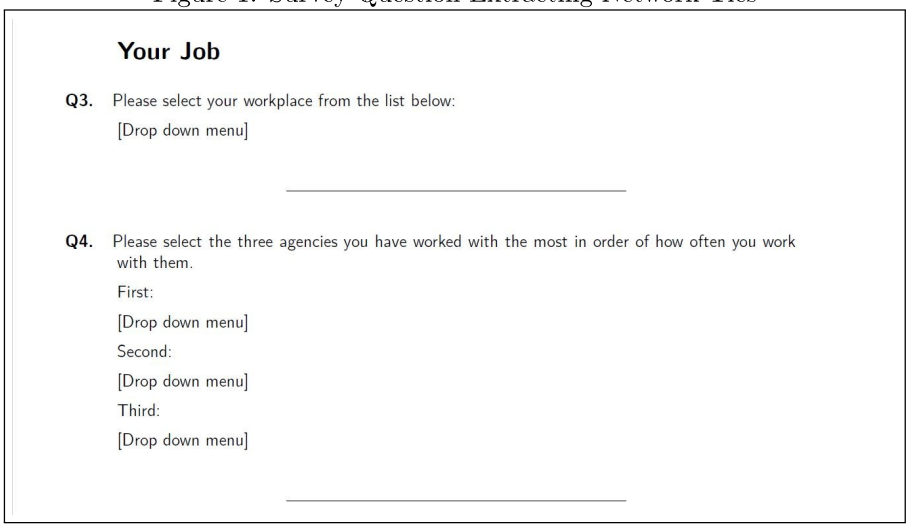
To characterize the degree of interagency interactions we use data from the Survey on the Future of Government Service (SFGS)—a collaborative survey of federal executives conducted by Georgetown University, Vanderbilt University, and Princeton University (see Richardson et al., 2018, Richardson, 2019). We draw on data from two waves of the survey; the first wave of the survey in our analysis was conducted in 2014 under the Obama Administration, and the second wave of the survey was conducted in 2020 under the Trump Administration. The subjects of this survey were political appointees, career members of the Senior Executive Service, U.S.-based members of the Senior Foreign Service, and other high level career executives at the GS-14 level or higher. The participation rate for the 2014 survey was 24% (3,551 out of 14,698). The participation rate of the second survey, fielded during the pandemic, was 11% (1,779 full or partial completes out of 16,232).[2] These rates are comparable to most public opinion surveys (response rates for Gallup telephone surveys average around 7 percent).

The survey asked each respondent to name the three agencies with whom they worked most closely (Figure 1). Respondents were given a drop-down menu with the prompt "Please select the three agencies you have worked with the most in order of how often you work with them."[3] The drop-down menu includes more than 200 agencies, first listing the executive department and their bureaus and then the independent agencies. Respondents are allowed to select an entire department or one of its subcomponents. When respondents select an entire department rather than a specific bureau, we assume they are referring to the office of the secretary. We include the full list of agencies from the dropdown menus in Appendix A.

[2]We refer to the participation rate since many respondents started but did not complete the whole survey.

[3]In 2014 respondents also had the option of a paper survey. On the paper survey, respondents were provided a blank entry for agencies and a list of agencies to choose from.

Figure 1: Survey Question Extracting Network Ties



In asking respondents to identify the agencies with whom they worked most closely, the survey provides a means of mapping networks among agencies, something difficult to observe systematically. Of course, some agencies and respondents have more outside contacts than others. In Table 1 we include the percentage of respondents that list one or more, two or more, or three agencies. More than 90% reported working with at least one agency outside their own and 70-80% work with at least three other agencies.

Table 1: Percentage of respondents who reported as having worked with...

Year	**2014**	**2020**
One or more agency	95.6%	91.7%
Two or more agencies	88.9%	81.4%
Three agencies	81.2%	71.7%
N	2901	1749

The numbers in 2020 are slightly lower than in 2014. This is likely due to differences in the composition of the samples rather than a decline in the number of interagency interactions; the 2020 sample included a larger population and more respondents that work lower in agency hierarchies. While those working lower in the hierarchy have less of a chance of working with outside agencies, it is unlikely that these respondents would list significantly different agencies relative to those higher in the hierarchy or would affect an agency's relative centrality within the network. To validate this claim, we create comparable samples using post-stratification weights based on a respondent's appointee status,

workplace, and whether a respondent worked in the D.C. area. We find that our bureau-level centrality scores and the scores produced using post-stratification weights are correlated at 0.9997 ($p < 0.001$).

4.1 Operationalization of Network Ties

Next, we present a brief analysis of ties among agencies and several descriptive statistics of agency centrality. We consider agency i and agency j to be linked if a respondent from agency i lists agency j as a frequent collaborator. We assign weights based on the order in which a respondent listed an agency—with weights 1.00, 0.66, and 0.33, respectively.[4] To create a measure of ties between two agencies, we first take the sum of the weighted links between all respondents of any given agency i and agency j, and then divide by the sum of weighted links from respondents at agency i to all agencies (including j).

To express this measure formally, let w_{ikj} be the weight of respondent k in agency i reporting a link to agency j. The numerator in our measure is the sum of the weights across all respondents N_i in agency i who listed agency j, which can be expressed as $\sum_{k=1}^{N_i} w_{ikj}$. The denominator is the sum of weighted links between agency i and all other agencies (including j). Denoting the set of all agencies as A and $j' \in \{j, \neg j\}$ representing each agency in A except for agency i, the sum of agency i's ties to all other agencies can be expressed as $\sum_{j' \in A} \sum_{k=1}^{N_i} w_{ikj'}$. The connection between agency i and agency j can therefore be expressed as:

$$\text{Tie}_{i \to j} = \frac{\sum_{k=1}^{N_i} w_{ikj}}{\sum_{j' \in A} \sum_{k=1}^{N_i} w_{ikj'}}$$

For example, suppose we are calculating the tie from FDA to CDC in which there are five respondents from FDA, two of whom list CDC as their first (weight = 1.0) contact while the other three respondents do not list CDC at any stage. The strength of the tie from FDA to CDC would be:

$$\frac{2(1.0) + 3(0.0)}{5(1.0 + 0.66 + 0.33)} = \frac{2}{10} = 0.2$$

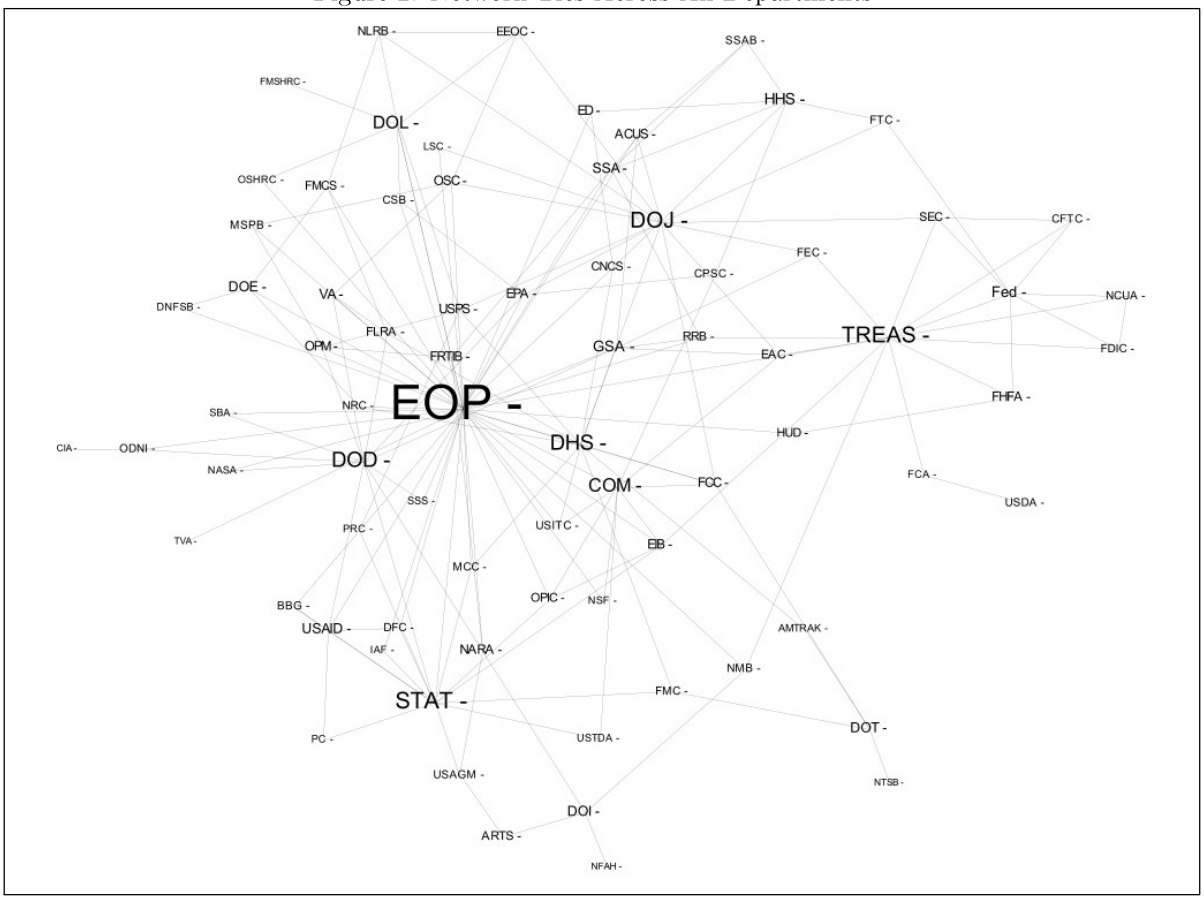
Of the 199 distinct agencies in our sample, we find that 129 agencies (64.8%) had a tie to another agency of ≥ 0.11. Substantively, we can interpret this cutoff as meaning that least one-third of respondents from agency i listed agency j. Further, there were 16 agencies (8%) which had ties of

[4] In Appendix Table B, we compare our measure of centrality for bureaus in 2020 against a measure of centrality without the use of weighting. The measures produce nearly identical results (Correlation = 0.992, $p < 0.001$).

≥ 0.11 to ten or more agencies other than their own.

In Figure 2 we present a simple visualization of the interagency relationships by graphing the ties among departments, excluding the information on subcomponents of larger agencies. For ease of interpretation, we temporarily present ties between agencies as a binary indicator if the weight of the tie is ≥ 0.11. We treat ties as undirected, meaning that agency i and agency j are considered as connected if respondents from agency i have a tie to agency j at the ≥ 0.11 level, even if respondents from agency j does not list agency i at the ≥ 0.11 level. We weight the size of an agency's label by its number of ties.

Figure 2: Network Ties Across All Departments



Not surprisingly, the EOP has the highest degree centrality of any unit, with the Department of Justice, Department of Defense, Department of State and Department of the Treasury with a significant number of ties. Additionally, this visualization appears to feature network groups based on policy areas. In the upper-right of the graph, near the Department of the Treasury, we can see agencies involved in financial services—such as the Federal Reserve, SEC, CFTC, NCUA, and FDIC—each with ties to

one another. We can see similar groupings of foreign affairs and defense agencies in the bottom-left of the graph, as well as agencies involved in labor policy in the upper-left. Notably, the figure reveals the extent of interagency relationships among the departments and agencies of the executive branch, reinforcing the centrality of these relationships to modern governance.

4.2 Measuring Agency Centrality

To more precisely characterize an agency's position within the network, we calculate agency j's degree centrality as the sum of all ties to agency j divided by the total number of possible links to j. Expressed formally, we first sum all $\text{Tie}_{i \to j}$ for all agencies $i \neq j$ which can be expressed as $\sum_{\substack{i \in \mathcal{A} \\ i \neq j}} \text{Tie}_{i \to j}$. We then divide by the sum of possible ties to agency j which is the total number of agencies in the sample, expressed as $N_{\mathcal{A}}$, subtracted by 1. For ease of interpretation, we then multiply by 100 such that the sum of centrality scores within each given wave of the survey will sum to 100. Taken together, the centrality of agency j can be expressed as:

$$\text{Centrality}_j = \frac{\sum_{\substack{i \in \mathcal{A} \\ i \neq j}} \text{Tie}_{i \to j}}{N_{\mathcal{A}} - 1} \times 100$$

For example, suppose we are calculating CDC's centrality in which there are only three agencies in our sample: the CDC, FDA, the Small Business Administration. Suppose there are five respondents from FDA, two of whom list CDC as their first (weight = 1.0) contact while the other three respondents do not CDC at any stage. Suppose there are ten respondents from the Small Business Administration, one of whom lists CDC as their second (weight = 0.66) contact while the other nine respondents do not list CDC at any stage. CDC's centrality would be calculated as:

$$\begin{aligned}
\text{Centrality}_{\text{CDC}} &= \frac{\overbrace{\frac{2(1.0) + 3(0.0)}{5(1.0 + 0.66 + 0.33)}}^{\text{FDA}} + \overbrace{\frac{1(0.66) + 9(0.0)}{10(1.0 + 0.66 + 0.33)}}^{\text{Small Business Administration}}}{N - 1} \times 100 \\
\text{Centrality}_{\text{CDC}} &= \frac{\frac{2}{10} + \frac{0.66}{20}}{(3) - 1} \times 100 \\
\text{Centrality}_{\text{CDC}} &= \frac{0.2 + 0.033}{2} \times 100 \\
\text{Centrality}_{\text{CDC}} &= 0.1165 \times 100 \\
\text{Centrality}_{\text{CDC}} &= 11.65
\end{aligned}$$

In Table 2, we provide a brief snapshot of the structure and content of bureau centrality. We order bureaus by their centrality using data from the 2014 and 2020 surveys; we also list each bureau's centrality using only data from respective survey.[5]

Table 2: Bureaus by Centrality

Rank	**Bureau** (N=199)	**Pooled**	**2020**	**2014**
1	Office of Management and Budget	7.637	6.578	8.436
2	Office of the Secretary of Defense	6.498	6.104	6.236
3	Office of the Attorney General	4.643	4.263	4.877
4	Office of the Secretary of State	3.289	3.136	2.772
5	Office of the Secretary of Homeland Security	2.559	2.807	2.394
6	Office of the Secretary of Health and Human Services	2.412	2.748	2.068
7	National Security Staff	2.305	1.487	2.818
8	Office of the Secretary of Agriculture	2.063	2.090	2.223
9	Office of the Secretary of the Treasury	2.023	1.855	2.199
10	Office of the Secretary of Labor	1.999	3.593	1.681
⋮	⋮	⋮	⋮	⋮
96	Bureau of Reclamation	0.247	0.232	0.200
97	Drug Enforcement Administration	0.232	0.124	0.307
98	Securities and Exchange Commission	0.231	0.162	0.273
99	Bureau of Alcohol, Tobacco, Firearms and Explosives	0.230	0.191	0.168
100	National Agricultural Statistics Service	0.227	0.429	0.231
⋮	⋮	⋮	⋮	⋮
195	Federal Election Commission	0.003	0.000	0.004
196	Community Relations Service	0.002	0.006	0.000
197	United States International Development Finance Corporation	0.002	0.004	0.000
198	Defense Commissary Agency	0.002	0.008	0.000
199	Broadcasting Board of Governors	0.002	0.000	0.003

As further examples, we present the centrality of bureaus within two agencies: the Executive Office of the President and the Department of Justice. Both agencies are relatively prominent within the federal government and feature significant variation in the centrality of their respective bureaus.

[5]In Appendix B, we compare agencies' centrality across the 2014 and 2020 surveys. There was little variation across the two waves; the correlation between an agency's centrality in 2014 and 2020 was 0.941 (p¡0.001).

Table 3: Centrality within EOP

Rank	**Bureau** (N=7)	**Pooled**	**2020**	**2014**
1	Office of Management and Budget	7.637	6.578	8.436
2	National Security Staff	2.305	1.487	2.818
3	Office of Science and Technology Policy	0.908	0.437	1.255
4	Office of the United States Trade Representative	0.787	0.757	0.725
5	Council of Economic Advisers	0.371	0.146	0.429
6	Council on Environmental Quality	0.300	0.128	0.445
7	Office of National Drug Control Policy	0.197	0.240	0.174

As we can see in Table 3, the most central bureau within EOP is the Office of Management and Budget, followed by the National Security Staff. The least central bureaus within EOP are the Council on Environmental Quality and Office of National Drug Control Policy. Notably, there is a decrease in the centrality of the National Security Staff, the Council of Economic Advisers, and Council on Environmental Quality in the Trump Administration. This is consistent with a number of moves the Trump Administration took toward these agencies. President Trump substantially reorganized the National Security Staff, including the elimination of several offices such as the office dealing with pandemic preparedness. President Trump also demoted the CEA by not including his Chairman of the CEA among his cabinet officials (Zumbrun, 2017). This was a break with past administrations. The president also rolled back a significant federal role in environmental policy.

Table 4: Centrality within DOJ

Rank	**Bureau** (N=11)	**Pooled**	**2020**	**2014**
1	Office of the Attorney General	4.643	4.263	4.877
2	Federal Bureau of Investigation	1.016	0.889	1.030
3	Executive Office for United States Attorneys	0.598	0.570	0.462
4	Office of Legal Counsel	0.318	0.508	0.287
5	Drug Enforcement Administration	0.232	0.124	0.307
6	Bureau of Alcohol, Tobacco, Firearms and Explosives	0.230	0.191	0.168
7	Bureau of Prisons	0.083	0.067	0.097
8	Executive Office for Immigration Review	0.063	0.081	0.000
9	Office of Justice Programs	0.035	0.211	0.000
10	U.S. Marshals Service	0.018	0.056	0.000
11	Community Relations Service	0.002	0.006	0.000

In Table 4, we can see similar variation within the Department of Justice. The Office of the Attorney General is among the most central of any organization in the federal government, followed by the F.B.I., Office of U.S. Attorneys, and Office of Legal Counsel. The Office of Legal Counsel employs only 36 persons but exercises important authority to arbitrate executive branch legal disputes among

agencies. DOJ's Community Relations Service—which provides mediation services to communities facing conflict—is among the least central of all bureaus in the sample. Interestingly, the centrality of the Office of the Attorney General and the Federal Bureau of Investigation decreased during the Trump Administration.

5 Application to Nominations Strategy

Next, we present one application of an agency's network centrality through the lens of the president's strategy for nominating political appointees. Specifically, we assess whether a vacancy is faster to receive a nominee if it is located in an agency with higher network centrality. Given that the two waves of our survey were conducted in 2014 and 2020, we assess an agency's centrality in 2014 on President Trump's nomination strategy in 2017, and assess an agency's centrality in 2020 on President Biden's nomination strategy in 2021. We rely on Tobit models given that nominations are censored at Inauguration Day and for positions that did not receive a nomination during a president's term.[6] More specifically, we estimate the following Tobit model:

$$\text{Days}_{iacd} = \beta_1 \text{Centrality}_{ad} + \gamma X_i + \alpha_c + \alpha_d + \epsilon_i$$

in which Days_{iacd} is the number of days since inauguration before a first nominee was received by Senate committee c for vacancy i in agency a in department d.[7] The measure ranges between 0 to 1,460 days for President Trump, where 0 days indicates that a nomination took place on Inauguration Day and 1,460 days indicates that the position did not receive a nomination during the president's term. The measure ranges between 0 to 1,272 days for President Biden given that the data were collected prior to President Biden's departure from office.[8] That data are censored at 0 since presidents-elect may prefer to send nominees to the Senate before Inauguration and at 1,460 and 1,272, respectively, since we do not observe nominations after these dates. Since the dependent variable is a count of days, a negative coefficient in model estimates implies a quicker nomination and a positive coefficient implies

[6] Our results are not sensitive to a specific functional form. In the appendix, we show that these results are consistent for nonparametric approaches such as Cox proportional hazards models.

[7] We look only at time to first nomination for positions vacant on Inauguration Day, not examining successive nominations after a failed nomination or nominations to positions that became vacant after Inauguration. In the Appendix, we use holdover data from 2020 to show that our results are not sensitive to controlling for positions in which a previous appointee held over from a previous administration.

[8] In the Appendix, we present the same model specifications using the time between initial nomination and Senate confirmation.

a slower nomination.

Centrality$_{ad}$ is the centrality of the agency a in department d. As noted above, we present the centrality of agencies in the 2014 survey for President Trump's nominations, and the centrality of agencies in the 2020 survey for President Biden's nominations.[9] In the appendix, we explore whether centrality matters more when an agency's connections implement the president's priorities, have similar or different policy views of the president, or have higher positions in the administrative hierarchy.

We also control for several covariates, represented as the covariate matrix X_i. First, we control for whether an agency itself implements a priority on the president's agenda (0,1). The priority of an agency's connections comes from Bednar and Lewis (2024) and is coded as the proportion (0-1) of an agency's connections that are specifically responsible for carrying out an item mentioned in President Trump's *Contract with the American Voter* or President Biden's first speech to Congress. Second, we control for an agency's ideology, as measured from Richardson, Clinton, and Lewis (2018). The ideology of the position represents the smallest subcomponent with an ideology score; in cases where matching the vacancy to an agency was difficult or uncertain, the ideology of the department is used. We rescale our measure to reflect ideological distance: higher values represent an agency ideologically further from the president while lower values represent an agency more ideologically aligned. Third, we include four binary indicators (0,1) for whether a nomination is for a U.S. Attorney, U.S. Ambassador, U.S. Marshal, or Inspector General (IG) position. We control for a position's pay level (with higher values indicating higher positions),[10] and a binary indicator for whether a position is part-time (0,1). Finally, we include a count of the number of positions in an agency with the expectation that there are diminishing marginal returns to filling positions in agencies with many appointees.[11] To help with identification, α_c are committee fixed effects and α_d are department fixed effects.[12] Standard errors are clustered at the department-level.

[9]We exclude the Executive Office of the President from our baseline analyses given its unique position in the bureaucratic hierarchy; in Appendix C, we include our baseline model including EOP.

[10]An executive level 1 is coded with a 5, executive level 2 a 4, and so forth. Positions not on the executive pay schedule are coded with a 0.

[11]In some cases, agencies will submit multiple concurrent nominations to fill closely related vacancies (e.g. positions on an advisory board). In the Appendix, we show that are results are consistent when controlling for positions which received concurrent nominations more than 90 days after inauguration.

[12]We include an indicator for each executive department, the Executive Office of the President (in models including EOP), and independent agencies, for 17 fixed effects in total.

Table 5: Days to First Nomination: Trump Administration

	Dependent variable:		
	Days		
	(1)	(2)	(3)
Bureau Centrality	-67.52^{*}	-99.74^{***}	-53.77
	(35.91)	(37.15)	(36.43)
Pay Level	-119.27^{***}	-126.94^{***}	-130.46^{***}
	(20.52)	(21.86)	(21.84)
Agency Ideology	28.06	-8.30	-77.88
	(23.33)	(39.11)	(51.10)
Bureau Priority	-150.91^{*}	-108.85	-128.21
	(80.06)	(87.64)	(86.52)
Ambassador	-63.07	-256.12^{*}	-266.93^{*}
	(148.16)	(150.32)	(145.42)
U.S. Marshal	212.89^{**}	-192.01	-157.50
	(91.30)	(191.45)	(188.82)
U.S. Attorney	-302.58^{***}	-753.49^{***}	-744.07^{***}
	(85.71)	(184.97)	(179.56)
IG	455.07^{***}	447.90^{***}	581.25^{***}
	(136.87)	(137.29)	(138.36)
Part Time	477.63^{***}	508.89^{***}	392.25^{***}
	(84.93)	(97.09)	(105.85)
Total Nominees in Bureau	6.23^{***}	6.20^{***}	6.16^{***}
	(0.03)	(0.03)	(0.03)
Constant	919.05^{***}	848.08^{***}	63.33
	(97.55)	(126.96)	(284.07)
Department Fixed Effects	No	Yes	Yes
Committee Fixed Effects	No	No	Yes
Right-Censored	196	196	196
Observations	981	981	981

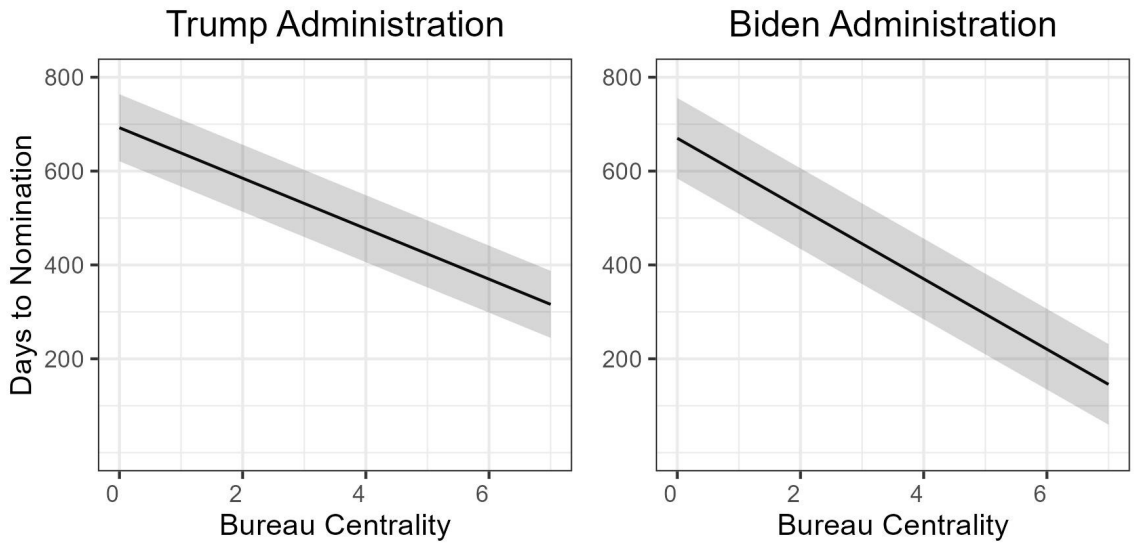
Note: *p<0.1; **p<0.05; ***p<0.01; All estimates use type HC0 standard errors clustered at the department level.

Table 6: Days to First Nomination: Biden Administration

	Dependent variable:		
	Days		
	(1)	(2)	(3)
Bureau Centrality	−101.93**	−135.54***	−74.93*
	(40.11)	(44.99)	(43.85)
Pay Level	−72.07***	−72.45***	−86.51***
	(18.85)	(20.27)	(19.99)
Agency Ideology	−1.68	−24.62	−11.55
	(22.10)	(36.98)	(48.42)
Bureau Priority	−27.04	−20.63	−30.47
	(58.58)	(66.43)	(66.02)
Ambassador	1,424.21***	2,067.38***	1,912.40***
	(484.21)	(675.67)	(675.70)
U.S. Marshal	1,395.21***	1,557.97***	1,507.12***
	(220.86)	(313.15)	(310.74)
U.S. Attorney	760.03***	962.07***	880.30***
	(216.93)	(325.60)	(321.83)
IG	456.49***	405.89***	475.16***
	(122.88)	(125.62)	(121.82)
Part Time	489.03***	423.09***	208.90**
	(78.82)	(87.79)	(96.91)
Total Nominees in Bureau	6.15***	6.14***	6.10***
	(0.03)	(0.03)	(0.03)
Constant	726.14***	801.40***	1,033.38***
	(91.89)	(118.89)	(289.00)
Department Fixed Effects	No	Yes	Yes
Committee Fixed Effects	No	No	Yes
Right-Censored	181	181	181
Observations	799	799	799

Note: *p<0.1; **p<0.05; ***p<0.01; All estimates use type HC0 standard errors clustered at the department level.

Figure 3: Predicted Pace to Nomination in Bureau Centrality



In Tables 4 and 5 we include model estimates for the Trump Administration and Biden Administration, respectively. The models generally confirm some of the conventional wisdom about nominations. Both presidents were slower to select nominees for positions in agencies with many appointees, part-time positions, and inspectors generals. Such positions appear to regularly be filled last, if it all. The coefficient estimates on the variable measuring whether an agency implements a presidential priority are all negative, suggesting quicker nominations for positions in such agencies although the estimates are imprecise. Interestingly, the perceived liberalism-conservatism of the agencies had no consistent effect on the pace of nominations.

Notably, a position's place in the hierarchy is also correlated with quicker nominations. A one-level increase in position pay level (a proxy for hierarchy) is estimated to speed up the nomination process by 70-85 days in the Biden Administration and 120-130 days in the Trump Administration. This is consistent with the idea that positions responsible for resolving disputes among lower-level units are filled more quickly.

In total, variation in the centrality of different agencies to interagency work appears correlated with the pace of nomination. This can be due to the importance of the agency to the work of other agencies or an agency's position in the hierarchy (e.g., Office of the Secretary). In many cases, the secretary cannot carry out their mandate without the cooperation of other agencies beyond the secretary's control.

Most importantly for our purposes the model estimates generally reveal that agency centrality is correlated with quicker nominations (i.e., fewer days). Coefficient estimates are negative in the baseline models, suggesting that an increase in centrality is correlated with fewer days before the president sends a nomination to the Senate. The coefficients are substantively large and estimated precisely in five of the models. The overall predicted effects are included in Figure 4, drawn from Model 3 in both panels. These models suggest that a one-unit change in centrality (about 2/3 of a standard deviation), is estimated to reduce the time to nomination by 53.8 days in the Trump Administration and about 74.9 days in the Biden Administration. This is important evidence that presidents and their teams are aware that some positions are more central to the administrative presidency than others.

We supplement these analyses in the appendices, examining different measures of the dependent variable and exploring whether the size of the coefficient on centrality is influenced by interactions with other covariates. In Appendix C we estimate the same models with time to confirmation of a positions first nominee. In these models we could not reject the null that centrality had no influence on time to confirmation, suggesting that the Senate either does not perceive centrality as important, or at least differently than the president. We then estimate models that interact centrality with the average priority of an agency's connections, the average ideology of an agency's connections, and pay level. The effect of centrality is largest for agencies more ideologically aligned with the presidents and positions higher in the hierarchy. Not only do presidents prioritize positions in the most central agencies, but this is particularly the case of the positions are important for other reasons.

6 Discussion

Data from federal executives about who they work with reveal a dense and interconnected executive branch. Some agencies are more connected than others. Some serve as veto points in interagency processes. Notably, agencies and offices higher in the hierarchy tend to be more central. Even among such agencies, however, there is variation based upon the breadth of tasks and authority to give or withhold approval and resources. Even less visible agencies, such as OMB or the OLC can be quite central because of their authority to determine budgetary, regulatory, and legal questions for other agencies.

These differences in interagency work seem to matter for presidential nomination strategies. Presidents are more likely to nominate persons quickly to positions in more central agencies. Congress, however, does not feel a similar compulsion to act quickly. Centrality is one factor among many

that influence presidential choices, but presidents recognize that some offices are key to starting and stopping interagency processes.

While these results shed important light on how the executive branch is organized and how elected officials navigate interagency relationships, appropriate caution should be taken in interpreting these findings. There are outstanding conceptual and measurement questions that remain. Our approach here has emphasized the perspective elected officials and how they embrace or confront jurisdictional issues. In our accounting agencies are forced to work together, either by design or unintended consequence. Yet, in many instances agencies may voluntarily *choose* to work together in order to learn from one another or take advantage of a political opportunity (Napolio, 2023; Napolio, n.d.). Our measurement strategy, which relies on agency executives telling us whom they work with cannot disentangle interagency relationships that stem from design from those that are voluntarily started. Both types of interagency relationships – necessary vs. voluntary, formal vs. informal–may create the similar incentives for presidential nomination politics but they are substantively quite different. In the first case, agencies literally cannot accomplish what the president and Congress have asked them to do without the cooperation of other agencies. In the second case, they can do what they have been asked to do but working together provides agencies a way to serve their own interests better.

In conversations with one agency official, he characterized the agency's relationship with another agency as "working against" the agency rather than working with the agency. This suggests that the question of whether our measure biases respondents toward agencies they work productively with rather than all agencies they interact with. It is unclear how this would influence the president's nomination strategy but it if this phenomenon is common it could lead us to mischaracterize the true nature of interagency relationships. We also may be concerned that respondents felt compelled to list three agencies even if their relationship was relatively weak; conversely, we may also be concerned that we are missing ties if a densely networked agency works with more than three partners.

In our current configuration we focus on any connections among agencies. The question is whether links among agencies should be directed or undirected. On one hand, treating links as undirected may introduce bias if there is variation in agencies' relationships to one another. For example, there may be circumstances in which a low-influence agency consistently lists a high-influence agency as a partner, but is rarely listed as a partner by the high-capacity agency. On the other hand, if we require that two agencies list one another in order to qualify as a link, we may miss important links due to factors such as workforce size or survey nonresponse. For example, if we are interested in whether the

State Department works closely with the Central Intelligence Agency, but know that employees at the Central Intelligence Agency are less likely to respond to an email survey, we would miss this link by requiring both parties to list one another.

Finally, we may be worried about survey nonresponse bias introducing bias into the network structure. This may not necessarily be a problem if we think that nonresponse is randomly distributed, but would be concerning if we believe that certain agencies or employees would be less likely to answer the survey. For example, previous work using the Survey on the Future of Government Service has found lower response rates for more ideologically conservative agencies—such as the U.S. Border Patrol—or agencies that work in national security—such as the Central Intelligence Agency and National Security Agency. In particular, this may cause problems for researching the U.S. Department of Defense, which is the largest bureaucracy in the U.S. federal government but is also ideologically conservative and may be less likely to respond to surveys given concerns over national security.

These caveats provide appropriate context to the conclusions here but do not diminish the conclusions about the dense executive branch network and its consequences for the president's appointments strategy.

7 Conclusion

Interagency relationships have consequences for the efficacy of political control since agencies have different preferences, priorities, information, and principals (e.g., different authorizing committees). These diverse organizations share authority and some work cannot get done without cooperation. Congressional delegation to multiple agents provides informational and political benefits but it also multiplies traditional principal-agent problems and invites additional pathologies, including those commonly associated with team production. Elected officials try to address to problems associated with overlapping jurisdiction by creating new layers of hierarchy or mandating interagency cooperation but the relationships have undoubted consequences for control efforts by the political branches.

Our effort to map these interagency relationships highlights the importance of accounting for them in studies of policymaking in the administrative state. When agencies interact with one another to set policy in joint rulemaking or some other forum, not all agencies operate on equal footing. Some agencies have more power than others. The degree of this power likely correlates with their centrality in these networks in addition to factors like size, client relationships, leadership, esprit de corps, connection to key tasks like security, and information (see, e.g., Hickson et al., 1971; Long, 1949;

Holden, 1966; Rourke, 1972; Salancik and Pfeffer, 1977). Scholars trying to understand the content of administration policymaking and implementation must understand the role of interagency processes and power dynamics to understand it fully.

Finally, understanding interagency relationships is central to management and performance. Agency leaders in heavily networked agencies cannot do what the president or Congress has asked them to do if other agencies do not cooperate with them. This is particularly difficult in contexts when agency partners have different committees overseeing them or different priorities or cultures. Indeed, public management scholars are increasingly training managers in the skills of diplomacy, negotiation, and collaborative governance as a means of helping leaders perform well in these jobs. Such efforts highlight the difficulty of meeting performance goals in contexts where leaders and agencies do not control the people, resources, or authority necessary to achieve these goals.

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Appendix

Contents

A Agencies Listed for Workplace and "Works With" Questions, 2020

The network analysis requires knowing where our respondents work and where their connections work. In the tables in this appendix we list the workplace options in their dropdown menu and the "works with" options in their subsequent dropdown menu.

Table A1. List of Agencies

Agency Name Displayed	**"Works With" Selection if Different from Agency Name Displayed.**
Council of Economic Advisers	
Council on Environmental Quality	
National Security Staff	
Office of Management and Budget	
Office of National Drug Control Policy	
Office of Science and Technology Policy	
Office of the United States Trade Representative	
Department of Agriculture	
Department of Agriculture	Department of Agriculture (All)
Agricultural Marketing Service	
Agricultural Research Service	
Animal and Plant Health Inspection Service	
Economic Research Service	
Farm Service Agency	
Food and Nutrition Service	
Food Safety and Inspection Service	
Forest Service	

National Agricultural Statistics Service	
Natural Resources Conservation Service	
Rural Development	
Department of Commerce	
Department of Commerce	Department of Commerce (All)
Bureau of Economic Analysis	
Economic Development Administration	
International Trade Administration	
National Institute of Standards and Technology	
National Oceanic and Atmospheric Administration	
U.S. Census Bureau	
U.S. Patent and Trademark Office	
Department of Defense	
Department of Defense	Department of Defense (All)
Office of the Secretary of Defense	
Air Force	
Army	
Defense Advanced Research Projects Agency	
Defense Commissary Agency	
Defense Contract Audit Agency	
Defense Contract Management Agency	
Defense Finance and Accounting Service	
Defense Health Agency	
Defense Logistics Agency	
Joint Chiefs of Staff	
Missile Defense Agency	
National Guard Bureau	
Navy	
Department of Education	
Department of Education	Department of Education (All)
Institute of Education Sciences	
Office for Civil Rights	
Office of Elementary and Secondary Education	
Office of Federal Student Aid	
Office of Postsecondary Education	
Department of Energy	
Department of Energy	Department of Energy (All)
Advanced Research Projects Agency-Energy	
Energy Information Administration	

National Nuclear Security Administration	
Office of Electricity	
Office of Energy Efficiency and Renewable Energy	
Office of Environmental Management	
Office of Fossil Energy	
Office of Nuclear Energy	
Office of Science	
Department of Health and Human Services	
Department of Health and Human Services	Department of Health and Human Services (All)
Administration for Children and Families	
Centers for Disease Control and Prevention	
Centers for Medicare and Medicaid Services	
Food and Drug Administration	
Health Resources and Services Administration	
Indian Health Service	
National Institutes of Health	
Department of Homeland Security	
Department of Homeland Security	Department of Homeland Security (All)
Citizenship and Immigration Services	
Cybersecurity and Infrastructure Security Agency	
Coast Guard	
Customs and Border Protection	
Federal Emergency Management Agency	
Immigration and Customs Enforcement	
Secret Service	
Transportation Security Administration	
Department of Housing and Urban Development	
Department of Housing and Urban Development	Department of Housing and Urban Development (All)
Federal Housing Administration/Office of Housing	
Government National Mortgage Association	
Department of the Interior	
Department of the Interior	Department of the Interior (All)
Bureau of Indian Affairs	
Bureau of Land Management	
Bureau of Ocean Energy Management	
Bureau of Reclamation	
National Park Service	

U.S. Fish and Wildlife Service	
U.S. Geological Survey	
Department of Justice	
Department of Justice	Department of Justice (All)
Bureau of Alcohol, Tobacco, Firearms and Explosives	
Bureau of Prisons	
Community Relations Service	
Drug Enforcement Administration	
Executive Office for Immigration Review	
Executive Office for United States Attorneys	
Federal Bureau of Investigation	
Office of Justice Programs	
Office of Legal Counsel	
U.S. Marshals Service	
Department of Labor	
Department of Labor	Department of Labor (All)
Bureau of Labor Statistics	
Employment and Training Administration	
Mine Safety and Health Administration	
Occupational Safety and Health Administration	
Office of Workers' Compensation Programs	
Wage and Hour Division	
Department of State	
Department of State	Department of State (All)
Arms Control and International Security Affairs	Offices and Bureaus within Arms Control and International Security
Bureau of Consular Affairs	
Bureau of Diplomatic Security	
Bureau of International Narcotics and Law Enforcement Affairs	
Civilian Security, Democracy, and Human Rights	Offices and Bureaus within Civilian Security, Democracy, and Human Rights
Economic Growth, Energy, and the Environment	Offices and Bureaus within Economic Growth, Energy, and the Environment
Management	Offices and Bureaus within Management
Political Affairs	Offices and Bureaus within Political Affairs
Public Diplomacy and Public Affairs	Offices and Bureaus within Public Diplomacy and Public Affairs
Department of Transportation	
Department of Transportation	Department of Transportation (All)

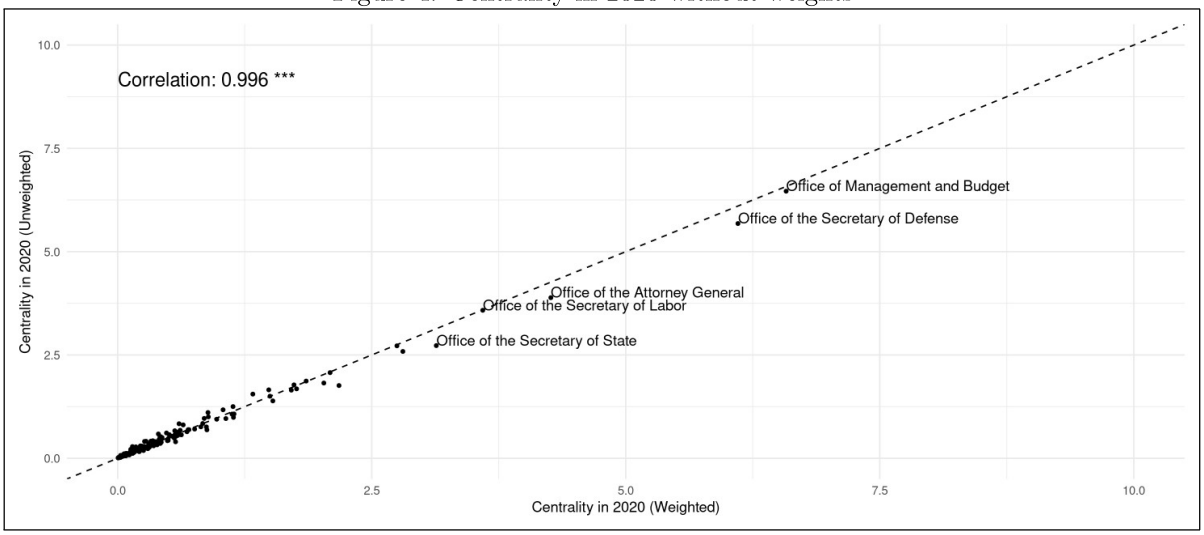
Federal Aviation Administration	
Federal Highway Administration	
Federal Motor Carrier Safety Administration	
Federal Transit Administration	
National Highway Traffic Safety Administration	
Department of the Treasury	
Department of the Treasury	Department of the Treasury (All)
Alcohol and Tobacco Tax and Trade Bureau	
Bureau of Engraving and Printing	
Bureau of the Fiscal Service	
Financial Crimes Enforcement Network	
Internal Revenue Service	
Office of the Comptroller of the Currency	
U.S. Mint	
Department of Veterans Affairs	
Department of Veterans Affairs	Department of Veterans Affairs (All)
National Cemetery Administration	
Veterans Benefits Administration	
Veterans Health Administration	
Independent Agencies	
Administrative Conference of the United States	
Central Intelligence Agency	
Commodity Futures Trading Commission	
Consumer Financial Protection Bureau	
Consumer Product Safety Commission	
Corporation for National and Community Service	
Environmental Protection Agency	
Equal Employment Opportunity Commission	
Export-Import Bank of the U.S.	
Farm Credit Administration	
Federal Communications Commission	
Federal Deposit Insurance Corporation	
Federal Election Commission	
Federal Energy Regulatory Commission	
Federal Home Loan Mortgage Corporation	
Federal Housing Finance Agency	
Federal Labor Relations Authority	
Federal Maritime Commission	
Federal Mediation and Conciliation Service	

Federal National Mortgage Association	
Federal Reserve	
Federal Trade Commission	
Institute of Museum and Library Services	
General Services Administration	
Legal Services Corporation	
Merit Systems Protection Board	
Millennium Challenge Corporation	
National Aeronautics and Space Administration	
National Archives and Records Administration	
National Credit Union Administration	
National Endowment for the Arts	
National Endowment for the Humanities	
National Foundation on the Arts and the Humanities	
National Labor Relations Board	
National Railroad Passenger Corporation (AMTRAK)	
National Science Foundation	
National Security Agency	
National Transportation Safety Board	
Nuclear Regulatory Commission	
Office of Government Ethics	
Office of Personnel Management	
Office of Special Counsel	
Office of the Director of National Intelligence	
Peace Corps	
Railroad Retirement Board	
Securities and Exchange Commission	
Small Business Administration	
Social Security Administration	
Tennessee Valley Authority	
United States Agency for Global Media	
United States Agency for International Development	
United States International Development Finance Corporation	
United States International Trade Commission	
United States Postal Service	

B Validation of Network Measure

In our main specification, we consider agency i and agency j to be linked if a respondent from agency i lists agency j as a frequent collaborator. We assign weights based on the order in which a respondent listed an agency—with weights 1.00, 0.66, and 0.33, respectively—and average across all responses from agency i. In Figure 6, we compare the relative centrality of bureaus with this weighting scheme compared to the relative centrality of bureaus if we do not assign weights based on the order in which a respondent listed an agency. We find a high (0.996, $p < 0.001$) correlation between the centrality of bureaus with and without weighting.

Figure 4: Centrality in 2020 without weights



In Figure 7, we present a scatterplot of agencies' centrality in the 2014 and 2020 survey. There was little variation across the two waves; the correlation between an agency's centrality in 2014 and an agency's centrality in 2020 was 0.941 (p¡0.001). Across both surveys, the Office of Management and Budget, Office of the Secretary of Defense, and Office of the Attorney General were the most central bureaus within the federal government.

Nevertheless, there was variation in agencies' centrality between 2014 and 2020. For example, the Office of Management and Budget was the most central bureau in both waves, but was comparatively more central under the Obama Administration relative to the Trump Administration. The National Security Staff was relatively more central in 2014 relative to 2020; the Office of the Secretary of Labor was relatively more central in 2020 relative to 2014.

Figure 5: Comparison of Bureau Centrality Between 2014 and 2020

C Supplemental Models

- Table 8: Cox Proportional Hazards Model of Days to First Nomination
- Table 9: Days Between First Nomination and Senate Confirmation
- Table 10: Centrality and Priority of Connections
- Table 11: Centrality and Ideology of Connections
- Table 12: Centrality and Pay Level
- Table 13: Days to First Nomination (Including EOP)
- Table 14: Days to First Nomination (Including Batched Nominations)
- Table 15: Days to First Nomination: Biden Administration (Including Holdovers)

Table 8: Cox Proportional Hazards Model: Days to First Nomination

	Dependent variable:	
	Days	
	(Trump)	(Biden)
Bureau Centrality	0.24^{***}	0.37^{***}
	(0.08)	(0.10)
Pay Level	0.40^{***}	0.28^{***}
	(0.06)	(0.06)
Agency Ideology	0.40^{***}	-0.03
	(0.15)	(0.16)
Bureau Priority	0.31	0.10
	(0.21)	(0.17)
Ambassador	0.59^{***}	-6.90^{***}
	(0.34)	(1.84)
U.S. Marshal	0.23	-4.35^{***}
	(0.46)	(0.86)
U.S. Attorney	1.73^{***}	-3.08^{***}
	(0.43)	(0.87)
IG	-1.22^{***}	-0.84^{**}
	(0.44)	(0.34)
Part Time	-0.65	-0.44
	(0.33)	(0.28)
Department Stratified	Yes	Yes
Committee Stratified	Yes	Yes
Observations	981	799
R^2	0.17	0.16
Wald Test (df = 10)	$6{,}839.62^{***}$	$130{,}731.70^{***}$
LR Test (df = 10)	177.49^{***}	138.99^{***}

Note: *p<0.1; **p<0.05; ***p<0.01; All estimates use type HC0 standard errors clustered at the department level.

Table 9: Days Between First Nomination and Senate Confirmation

	Dependent variable:	
	Days Between Nomination and Confirmation	
	(Trump)	(Biden)
Bureau Centrality	−24.89	−24.90
	(22.59)	(23.84)
Pay Level	−15.67	−35.27***
	(13.65)	(11.43)
Agency Ideology	22.02	0.38
	(33.13)	(28.69)
Bureau Priority	58.52	28.83
	(56.83)	(38.63)
Ambassador	−80.94	−341.80
	(95.01)	(398.51)
U.S. Marshal	−174.54	−408.02**
	(123.15)	(183.89)
U.S. Attorney	−137.88	−253.37
	(117.03)	(190.23)
IG	−61.29	−118.83
	(89.95)	(72.64)
Part Time	−252.58***	−102.91*
	(69.44)	(57.09)
Total Nominees in Bureau	5.74***	5.57***
	(0.03)	(0.03)
Constant	544.23***	235.26
	(174.35)	(170.72)
Department Fixed Effects	Yes	Yes
Committee Fixed Effects	Yes	Yes
Right-Censored	196	181
Observations	980	799

Note: *p<0.1; **p<0.05; ***p<0.01; All estimates use type HC0 standard errors clustered at the department level.

Table 10: Centrality and Priority of Connections

	Dependent variable:	
	Days	
	(Trump)	(Biden)
Bureau Centrality	59.22	−228.81*
	(71.44)	(123.15)
Bureau Centrality * Priority Connections	−411.87	100.95
	(261.01)	(74.52)
Priority Connections	295.35***	19.11
	(89.87)	(28.47)
Pay Level	−133.48***	−88.93***
	(21.78)	(20.04)
Agency Ideology	−70.76	−3.29
	(51.50)	(48.58)
Bureau Priority	−48.80	−36.48
	(90.92)	(65.91)
Ambassador	−265.75*	1,937.78***
	(147.47)	(679.87)
U.S. Marshal	−204.52	1,419.21***
	(191.67)	(313.15)
U.S. Attorney	−749.85***	895.82***
	(180.26)	(324.87)
IG	549.95***	487.22***
	(138.43)	(121.78)
Part Time	381.82***	206.17**
	(105.59)	(98.43)
Total Nominees in Bureau	6.16***	6.09***
	(0.03)	(0.03)
Constant	−83.05	986.48***
	(293.02)	(290.07)
Department Fixed Effects	Yes	Yes
Committee Fixed Effects	Yes	Yes
Right-Censored	196	181
Observations	980	799

Note: *p<0.1; **p<0.05; ***p<0.01; All estimates use type HC0 standard errors clustered at the department level.

Table 11: Centrality and Ideology of Connections

	Dependent variable:	
	Days	
	(Trump)	(Biden)
Bureau Centrality	−853.45	−158.22
	(623.00)	(388.55)
Bureau Centrality * Ideology of Connections	375.55	52.11
	(302.13)	(199.11)
Ideology of Connections	102.42	−60.90
	(113.23)	(90.60)
Pay Level	−125.44***	−74.78***
	(22.19)	(20.69)
Agency Ideology	−125.32**	99.41*
	(57.35)	(56.67)
Bureau Priority	−142.03	−9.81
	(95.46)	(64.91)
Ambassador	−222.52	915.82
	(147.49)	(755.19)
U.S. Marshal	−72.04	1,270.43***
	(191.20)	(324.26)
U.S. Attorney	−739.68***	533.24
	(179.62)	(336.36)
IG	577.56***	498.18***
	(144.42)	(122.18)
Part Time	304.95***	149.54
	(110.30)	(107.12)
Total Nominees in Bureau	6.16***	6.06***
	(0.03)	(0.03)
Constant	64.62	688.39**
	(394.23)	(321.81)
Department Fixed Effects	Yes	Yes
Committee Fixed Effects	Yes	Yes
Right-Censored	196	181
Observations	945	748

Note: *p<0.1; **p<0.05; ***p<0.01; All estimates use type HC0 standard errors clustered at the department level.

Table 12: Centrality and Pay Level

	Dependent variable:	
	Days	
	(Trump)	(Biden)
Bureau Centrality	−103.02	−142.90
	(174.69)	(154.96)
Bureau Centrality * Pay Level	8.80	12.15
	(29.30)	(26.09)
Pay Level	−135.04***	−94.13***
	(28.21)	(24.87)
Agency Ideology	−76.59	−17.58
	(51.30)	(48.42)
Bureau Priority	−113.93	−25.43
	(87.50)	(66.62)
Ambassador	−262.15*	1,939.40***
	(145.47)	(688.28)
U.S. Marshal	−132.31	1,488.32***
	(202.70)	(310.65)
U.S. Attorney	−741.90***	894.83***
	(179.33)	(328.87)
IG	583.69***	467.85***
	(138.11)	(122.03)
Part Time	384.97***	191.66*
	(115.43)	(100.52)
Total Nominees in Bureau	6.16***	6.10***
	(0.03)	(0.03)
Constant	91.67	1,296.27***
	(301.92)	(231.80)
Department Fixed Effects	Yes	Yes
Committee Fixed Effects	Yes	Yes
Right-Censored	196	181
Observations	980	799

Note: *p<0.1; **p<0.05; ***p<0.01; All estimates use type HC0 standard errors clustered at the department level.

Table 13: Days to First Nomination (Including EOP)

	Dependent variable:	
	Days	
	(1)	(2)
Bureau Centrality	−53.89**	−66.89**
	(23.99)	(30.08)
Pay Level	−120.46***	−94.21***
	(20.27)	(19.90)
Agency Ideology	−56.68	−35.92
	(50.29)	(48.64)
Bureau Priority	−110.59	34.86
	(85.56)	(66.40)
Ambassador	−251.63*	1,798.34***
	(144.93)	(656.55)
U.S. Marshal	−147.40	1,462.56***
	(186.22)	(309.91)
U.S. Attorney	−717.27***	842.61***
	(178.31)	(314.66)
IG	606.93***	507.20***
	(138.84)	(126.09)
Part Time	428.48***	202.33**
	(104.25)	(97.96)
EOP	753.68***	335.74**
	(144.25)	(147.23)
Total Nominees in Bureau	6.17***	6.13***
	(0.03)	(0.03)
Constant	2.00	793.21***
	(283.83)	(260.31)
Department Fixed Effects	Yes	Yes
Committee Fixed Effects	Yes	Yes
Right-Censored	201	188
Observations	1,003	823

Note: *p<0.1; **p<0.05; ***p<0.01; All estimates use type HC0 standard errors clustered at the department level.

Table 14: Days to First Nomination (Including Batched Nominations)

	Dependent variable:	
	Days	
	(Trump)	(Biden)
Bureau Centrality	−60.77*	−57.95
	(33.96)	(41.82)
Pay Level	−127.96***	−93.72***
	(20.11)	(19.06)
Agency Ideology	−118.21**	49.36
	(47.75)	(47.01)
Bureau Priority	−97.87	−5.26
	(79.66)	(62.87)
Ambassador	−415.14***	1,006.40
	(134.48)	(649.76)
U.S. Marshal	−399.74**	1,243.14***
	(175.19)	(296.37)
U.S. Attorney	−1,011.99***	571.17*
	(167.22)	(307.61)
IG	496.57***	421.44***
	(127.62)	(115.54)
Part Time	558.92***	482.34***
	(99.84)	(97.74)
Batched Nominations	−721.81***	−717.65***
	(53.61)	(76.61)
Total Nominees in Bureau	6.08***	6.04***
	(0.03)	(0.03)
Constant	−78.47	888.66***
	(257.81)	(251.45)
Department Fixed Effects	Yes	Yes
Committee Fixed Effects	Yes	Yes
Right-Censored	196	181
Observations	981	799

Note: *p<0.1; **p<0.05; ***p<0.01; All estimates use type HC0 standard errors clustered at the department level.

Table 15: Days to First Nomination: Biden Administration (Including Holdovers)

	Dependent variable:	
	Days	
	(Biden)	(Biden)
Bureau Centrality	-135.79^{***}	-70.17^{*}
	(44.12)	(42.41)
Pay Level	-66.70^{***}	-77.67^{***}
	(19.87)	(19.37)
Agency Ideology	-9.94	-19.71
	(36.28)	(46.82)
Bureau Priority	-14.06	-18.05
	(65.02)	(63.87)
Ambassador	$1{,}834.00^{***}$	$1{,}578.50^{**}$
	(662.88)	(656.11)
U.S. Marshal	$1{,}353.50^{***}$	$1{,}209.34^{***}$
	(308.79)	(303.86)
U.S. Attorney	797.99^{**}	652.43^{**}
	(320.21)	(313.39)
IG	342.82^{***}	397.45^{***}
	(123.97)	(118.96)
Part Time	392.75^{***}	173.35^{*}
	(86.04)	(93.95)
Holdover	201.83^{***}	251.46^{***}
	(39.10)	(38.82)
Total Nominees in Bureau	6.12^{***}	6.06^{***}
	(0.03)	(0.03)
Constant	694.90^{***}	$1{,}021.69^{***}$
	(118.08)	(280.55)
Department Fixed Effects	Yes	Yes
Committee Fixed Effects	No	Yes
Right-Censored	181	181
Observations	799	799

Note: *p<0.1; **p<0.05; ***p<0.01; All estimates use type HC0 standard errors clustered at the department level.