Ideology and Performance in Public Organizations*

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Abstract

We combine personnel records of the United States federal bureaucracy from 1997–2019 with administrative voter registration data to study how ideological alignment between politicians and bureaucrats affects the personnel policies and performance of public organizations. We present four results. *(i)* Consistent with the use of the spoils system to align ideology at the highest levels of government, we document significant partisan cycles and substantial turnover among political appointees. *(ii)* By contrast, we find virtually no political cycles in the civil service. The lower levels of the federal government resemble a "Weberian" bureaucracy that appears to be largely protected from political interference. *(iii)* Democrats make up the plurality of civil servants. Overrepresentation of Democrats increases with seniority, with the difference in career progression being largely explained by positive selection on observables. *(iv)* Political misalignment carries a sizeable performance penalty. Exploiting presidential transitions as a source of "within-bureaucrat" variation in the political alignment of procurement officers over time, we find that contracts overseen by a misaligned officer exhibit cost overruns that are, on average, 8% higher than the mean overrun. We provide evidence that is consistent with a general "morale effect," whereby misaligned bureaucrats are less motivated. Our results thus help to shed light on the costs of ideological misalignment within public organizations.

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1 Introduction

Mission-oriented organizations pursue objectives beyond profit maximization. Instead of providing employees with high-powered financial incentives, these organizations tend to attract workers whose own values and preferences are closely aligned with the greater mission (Besley and Ghatak, 2005). In fact, explicit pecuniary incentives may backfire when agents derive intrinsic benefits from furthering an organization's goal (Dewatripont et al., 1999; Bénabou and Tirole, 2003). While mission can act as a powerful intrinsic motivator, it may also create frictions when the preferences of leaders and their subordinates become misaligned.

Frictions of this kind may be particularly relevant in bureaucracies, whose mission can change from one day to the next due to political turnover. When politicians face a large share of subordinates who no longer agree with the new priorities of the organization and whose compensation is not directly tied to performance, their real authority as the principal can be severely limited (Aghion and Tirole, 1997). Anecdotal evidence of ideological mismatch between bureaucrats and politicians abound. For instance, the Trump administration's decision to roll back environmental regulations was met with fierce resistance from within the Environmental Protection Agency (EPA), with bureaucrats refusing to comply, undermining directives by leaking confidential information to the press, or deciding to leave the agency (Plumer and Davenport, 2019). Similarly, throughout much of 2020, scientists from the Centers for Disease Control and Prevention (CDC) disagreed sharply with members of the Trump administration over public messaging related to the ongoing COVID-19 pandemic. At the height of these disagreements, Michael Caputo, a political appointee and top spokesperson for the Department of Health and Human Services (HHS), publicly accused the CDC of harboring a "resistance unit" and engaging in "sedition."[1] Examples like these can be found across the world and in both non-profit and for-profit organizations.[2]

In this paper, we turn to the U.S. federal government to investigate the role of alignment within organizations. We examine how the personnel policies and performance of the organization are affected by ideological (mis)alignment between bureaucrats and their political leaders (i.e., agents and their principals). The U.S. federal bureaucracy provides for an almost ideal setting to study these questions. As the executive arm of the federal gov-

[1] See CNBC article "CDC director says he's 'deeply saddened' by allegations of 'sedition' from Trump HHS appointee", retrieved on March 19, 2021.

[2] For instance, when Google, known for it's mission to "do no evil," was readying a new contract with U.S. Immigration and Customs Enforcement (ICE), thousands of employees resisted, pointing to allegations of human rights violations (link). In another instance, Google leadership reportedly faced strong internal backlash over Project Dragonfly, a search engine prototype that was designed to be compatible with China's state censorship provisions. Within a matter of months, the company announced that Project Dragonfly had been terminated (link).

ernment, its goal—or mission—is tightly linked to the policy agenda of the White House. At the same time, the vast majority of bureaucrats serve in civil service positions that are, in principle, protected from political interference. Many of them have their own preferences and ideological leanings, which may conflict with those of the president. Moreover, the party in power changes repeatedly, generating sharp shifts in the priorities of the organization. As a consequence, to implement an administration's agenda, politicians and department heads often need to work with bureaucrats whose personal values are not always aligned with the present mission of their department.

Our study draws on a large, novel data set that contains information on the partisan leanings of U.S. bureaucrats. We link personnel records for the near-universe of federal employees between 1997–2019 with contemporary administrative data on all registered voters in the United States.[3] By combining both sources of information, we are the first to measure ideology—and thus political alignment—for more than a million individuals throughout nearly the entire federal bureaucracy.

In the first part of the paper, we provide a descriptive analysis of the ideological preferences of federal bureaucrats, and how their careers depend on ideological alignment with the party in power. We establish three stylized facts. First, politicians can and do leverage their limited power over personnel in order to achieve greater ideological alignment between themselves and high-ranking bureaucrats. Specifically, we document a great amount of turnover and significant partisan cycles among political appointees. Under a Democratic president, political appointees are 49.7 p.p. more likely to be fellow Democrats than under a Republican one—a 152% increase. For Republican appointees we observe similarly dramatic changes—a 45.9 p.p., or 504%, increase relative to years in which the president is a Democrat. The presence of political cycles in our data is consistent with the use of the spoils system (i.e., the practice of placing supporters in public sector positions after winning an election) to better align the highest layers of the bureaucracy with the goals of the president.

Second, we document a remarkable degree of political insulation among career civil servants. In sharp contrast to our results for political appointees, we observe virtually no political cycles in the career civil service. In our data, the share of Democrats remains nearly constant over the entire time period. The share of Republicans exhibits a slight monotonic downward trend, which is offset by a corresponding rise in the fraction of independents. Focusing only on the hiring margin, we do detect statistically significant cycles for career senior executives; but they are an order of magnitude smaller than for political appointees. Moreover, career senior executives account for less than one percent of civil servants. Our

[3]The former data were released by the federal government in response to a series of FOIA requests. The latter were purchased from L2, Inc., a private, non-partisan data vendor.

descriptive findings, therefore, suggest that the core of the U.S. federal government resembles a "Weberian" bureaucracy, which is largely protected from political interference (Evans and Rauch, 1999).

Third, Democrats make up the plurality of career civil servants. The share of Democrats hovers around 50% across the 1997–2019 period, while the share of Republicans ranges from 32% in 1997 to 26% in 2019. This overrepresentation is present in nearly every department.[4] The share of Democrats is highest in the Department of Education, the State Department, and the EPA. The most conservative departments are Agriculture and Transportation, where the shares of Democrats and Republicans are nearly equal. Democrats are especially overrepresented in more-senior positions. Interestingly, positive selection on observables explains practically all of the observed difference in the career progression of Democrats and Republicans within the federal bureaucracy. Democratic-leaning bureaucrats have, on average, higher levels of educational attainment, and they are less likely to exit the civil service, which results in a greater accumulation of experience. The observation that Democrats appear to be positively selected, even conditional on pay, suggests that they might have a higher proclivity for public service (Ashraf et al., 2020).

Broadly summarizing, although politicians exert significant control over the ideological makeup of the highest layers of the federal bureaucracy, there are virtually no political cycles among rank-and-file civil servants. This leads to large and temporarily persistent ideological misalignments within the executive branch, irrespective of which party controls the White House. Given that Democrats are overrepresented among career bureaucrats, however, ideological misalignments are especially prevalent under Republican presidents.

In the second part of the paper, we study the performance implications of mission alignment. In light of the insulated nature of the career civil service, it stands to reason that a significant number of rank-and-file bureaucrats experience shocks to mission alignment whenever a new president and new political appointees take over from a previous regime. However, constructing performance measures for everyone in the federal bureaucracy with its wide range of occupations is exceedingly difficult. To make progress, we focus on a subset of important bureaucrats who complete comparable tasks with measurable outcomes: procurement officers. Procurement officers play a crucial role both in the ex-ante selection of buyers and in the ex-post monitoring of contracts. Moreover, procurement contracts account for a significant share of the federal budget. In 2017, the combined value of procurement contracts amounted to 9.3% of U.S. gross domestic product.[5]

[4]For expositional ease, we refer to both federal departments and independent agencies as *departments*. We refer to sub-units of departments or independent agencies as *bureaus*.

[5]Congressional Research Service (2021). IF11580, v. 4 UPDATED.

We link data on procurement contracts from the Federal Procurement Data System (FPDS) to our matched personnel and voter registration data. To examine mission-alignment, we exploit the fact that the raw procurement data contain information on the identity of the officers processing particular contracts. This hitherto underutilized feature allows us to assign contracts to about 7,200 individual procurement officers across nearly all departments of the federal government. We can thus investigate the performance implications of misalignment at the level of the officer that oversees the respective contract. Following the procurement literature, we use cost overruns and delays as contract-level measures of performance (Bajari and Tadelis, 2001; Decarolis et al., 2020b; Kang and Miller, 2020). Our analysis focuses on services and works contracts, which require significant monitoring and exhibit substantial variation in cost overruns and delays. Relying on "within-officer" variation to compare contract outcomes in years in which the officer is and is not aligned with the political superiors, we find that misalignment increases cost overruns by approximately 1% of initial contract value—about 8% relative to the mean overrun. This result holds even when comparing procurement officers working in the same department and year.

Higher cost overruns under politically misaligned officers do not appear to be the result of differential assignment of officers to tasks. Since contract characteristics, such as size or projected duration, do not significantly covary with officers' alignment, our estimates remain nearly unchanged when we include a rich set of contract-level controls, including industry and product fixed effects. We also find no evidence to suggest a change in pecuniary or career incentives. Instead, using data from a large, repeated survey of civil servants, we provide evidence that hints at a general "morale effect" of mission-alignment, whereby bureaucrats are more motivated and exert more effort when they are more closely aligned with the organizational mission.

Related Literature. Our findings contribute to three broad literatures. First, our results are related to a growing literature on bureaucratic turnover and selection. Prior work has documented different real-world costs due to turnover of bureaucrats (Iyer and Mani, 2011; Akhtari et al., 2020). There is also evidence on how political turnover affects employment outcomes within and selection into the bureaucracy (Colonnelli et al., 2020; Barbosa and Ferreira, 2019; Brassiolo et al., 2020; Fiva et al., 2021). It is important to note, however, that extant work focuses on developing countries, where the bureaucracy may be more suspectible to political interference, even if it is nominally insulated. In the context of the U.S., we document the existence *and* absence of political cycles. While politicians can and do use their discretion in hiring to increase ideological alignment at the highest levels of the federal bureaucracy, it is the absence of political interference in the career civil service—a feature intended to create an impartial administrative state—that creates the cost

of misalignment that we document.

To be clear, our findings should not be interpreted as evidence that protecting bureaucrats from political interference leads to overall worse performance. We present evidence on an underappreciated cost of politically insulating the civil service, which should be evaluated against known benefits (see, e.g., Colonnelli et al., 2020; Akhtari et al., 2020; Xu, 2018).

More closely related to our work is a small, recent literature in political science and public administration that studies bureaucratic turnover in the U.S.[6] Bertelli and Lewis (2020) use data from a survey of federal executives to show that human capital and perceptions of policy influence correlate with bureaucrats' turnover intentions. Bolton et al. (2020) study turnover in the aftermath of presidential transitions. They present evidence of an increase in turnover among the most senior civil servants in the first year of a new administration, especially in departments whose employees are estimated to have, on average, divergent views from the president.[7] By linking personnel records to administrative voter registration data, we are able to measure ideological alignment and trace its consequences at the *individual-level* throughout nearly the entire U.S. bureaucracy. Like Bolton et al. (2020), we investigate whether misaligned bureaucrats are more likely to leave. Unlike Bolton et al. (2020), however, we can also ask whether, *within the same department*, politically aligned individuals are more likely to be hired, promoted, or to exit relative to their misaligned counterparts. By linking individual procurement officers to contract outcomes, we can further investigate whether individuals' ideological alignment is associated with tangible differences in performance.

Second, our results speak to the literature on incentives and mission in public organizations (Dewatripont et al., 1999; Bénabou and Tirole, 2003; Besley and Ghatak, 2005; Ashraf and Bandiera, 2018). A growing body of work provides evidence on the role of pecuniary incentives in motivating bureaucrats (Khan et al., 2016; Bertrand et al., 2019; Khan et al., 2018; Leaver et al., 2020). We add to this strand of the literature by documenting how mission-alignment can shape effort and preformance. In the polarized American two-party system, differences in partisanship are indicative of diverging attitudes towards policies and the overarching mission of the state. Our findings provide suggestive empirical evidence that "mission matters," even in the context of a textbook bureaucracy in a high-income country. Our work, therefore, complements evidence from frontline providers in developing-country settings (Ashraf et al., 2014; Deserranno, 2019; Ashraf et al., 2020; Khan, 2021).

[6] Another strand of the political science literature is focused on estimating the degree of ideological proximity between different departments, political appointees, and the president (see, e.g., Nixon, 2004; Bonica et al., 2015; Bertelli and Grose, 2011).

[7] In a similar vein, Doherty et al. (2019) use survey data on the political leanings of 821 senior executives to show that turnover in the aftermath of the 2016 election was higher among those who opposed President Trump.

Third, our results contribute to an important literature on public procurement. Prior work has examined the role of individual procurement officers in explaining contract performance (Bandiera et al., 2009; Best et al., 2016; Decarolis et al., 2020b), the role of discretion in contracting (Szucs, 2020; Decarolis et al., 2020a; Baltrunaite et al., 2020; Bandiera et al., 2020; Baltrunaite, 2019), as well as the role of competition (Kang and Miller, 2020; Carril et al., 2021). Some of the work in the procurement literature focuses on (political) connections between procurement officers, the ruling party, and sellers. It typically exploits variation *across* organizations to identify potential distortions. By contrast, our focus lies on ideological alignment *within* the same organization. To the best of our knowledge, we are the first to exploit the individual identifiers in the U.S. raw procurement data to relate performance to the identity and characteristics of procurement officers.

2 Data and context

Our analysis combines data on employees of the U.S. federal civil sevice, information on the partisan affiliation of registered voters, and data on U.S. federal procurement contracts. In this section we describe the sources of these data and how we link them. Additional details are provided in the Appendix.

2.1 Federal employment records

Information on employees of the U.S. federal government for the 1973–2019 period come from the Office of Personnel Management (OPM), an independent government agency that manages the civilian workforce. For the period up to 2017, we use data that were made publicly available by BuzzFeed News, which, in turn, obtained the respective files via a series of Freedom of Information Act (FOIA) requests.[8] We made an additional FOIA request to the OPM in October 2019, extending the coverage of our data to February 2019. Since we are constrained in our ability to measure partisanship over time (cf. Section 2.2), we restrict our analysis to 1997–2019. This period is sufficient to study outcomes under four different presidents—two Democrats and two Republicans—and across three presidential transitions.

The OPM data constitute a panel at the employee-by-quarter level, which contains rich information on federal employees and their positions in the government. For instance, we observe the department and bureau associated with a particular position, the location of employment, the employee's occupation and pay, as well as the full name, education level,

[8]The data are available at https://archive.org/details/opm-federal-employment-data/docs/2015-02-11-opm-foia-response (last accessed March 2021).

and age (expressed in five years intervals).

The data come with two caveats. First, they do not include information on the identity of law enforcement officers and employees in certain sensitive departments, such as Defense.[9] Second, starting in the third quarter of 2014, the data cease to contain unique employee identifiers. To nonetheless be able to track employees over time, we rely on their full name and educational attainment to create identifiers for the last five years of the panel.

The OPM data also include information on the type of appointment to each position. We use this information to divide positions into six categories.[10] Specifically, we broadly differentiate between positions that are filled by a political appointee, and those in which appointments and removals are formally insulated from political influence. Political appointments are made by the President, or by a department head. Political positions belong to one of three categories: Presidential appointments in top executive positions (with or without Senate confirmation), politically appointed members of the Senior Executive Service (SES), and Schedule C appointees. The first category includes the highest level officers in the U.S. federal bureaucracy, such as cabinet secretaries and their immediate subordinates, as well as heads of government departments and employees in the Executive Office of the President (Davis and Greene, 2017). The second category—politically appointed member of the SES—includes executive positions just below the top Presidential appointees. While most SES employees are selected by departments through meritocratic procedures, up to 10% of them can be politically appointed government-wide (Shimabukuro and Staman, 2019).[11] The third category—Schedule C appointees—comprises positions with a confidential or policy-determining nature. Schedule C appointees must have a Presidential appointee, a SES appointee, or a Schedule C appointee as direct supervisor (The Plum Book, 2020). Regardless of the specific category, political appointees do not enjoy job protection, and can be removed at any time. They represent a small minority of all employees of the federal government—about 0.23% of all positions throughout the 1997–2019 period.

All remaining positions are "non-political" in nature. To differentiate them from political appointments, we refer to these positions as "civil service positions," and to employees in these positions as "civil servants." Civil service positions can be divided into three categories: employees in the competitive service, Career SES, and the excepted service. Employees in the competitive service represent the clear majority of the civilian workforce. They

[9] In some cases the departments are not included in the data, while in other cases the names of the employees are redacted. See Appendix F for the list of departments for which no information is reported.

[10] For the full list of OPM type-of-appointment codes, see Appendix F.

[11] In addition, a small number of politically appointed SES fall in the limited term appointment category, which can be used to fill positions that are either temporary (e.g., to lead a special project), or meet an unanticipated, urgent need.

are hired based on a competitive selection process with objective standards. Career SES positions include senior executives that are selected through a merit-based hiring process.[12] Finally, employees in the excepted service are hired without being subjected to a competitive examination. These "unclassified" positions are used by departments when competitive examination is not practicable and recruitment is better achieved through alternative selection procedures. Examples include attorneys, policy analysts, or STEM occupations.[13] Employees in any one of our three civil service categories generally enjoy significant protection from removal, sometimes after a probationary period.

Figure 1 provides a high-level summary of our categorization scheme. It also reports, for each category, the number of observations during our sample period. Our final dataset includes 2,809,907 employees with non-missing information on name, for a total of 72,993,738 employee-quarter observations.[14]

2.2 Voter registration data

In order to be able to measure the political leanings of federal employees, we have acquired information on the universe of registered voters in the U.S. These data are current as of the spring of 2020, and come from L2, Inc., a non-partisan for-profit data vendor that maintains high-quality databases of registered voters, political donors, and consumers. L2 collects, integrates, and standardizes information from different administrative and commercial sources, such as local election boards and Secretaries of State, the Federal Election Commission (FEC), mortgage and real estate records, Experian, and marketing mailing lists. It sells these data to political candidates and action committees (PACs), advocacy groups, and interested academics, among others.

In all but fifteen states does the partisanship of individuals in the L2 data coincide with the party affiliation in the respective states' voter registration lists. The remaining fifteen states do not collect information on voters' partisan leanings. For voters in the these states, L2 uses predictive modeling to impute a "likely" party affiliation.[15] Per the company, their

[12] SES positions are designated as "career reserved" or as "general." To ensure impartiality and insulation from political influence, the former positions can only be filled by career appointees. The latter can be filled by either career or political appointees. Noncareer appointments, however, cannot exceed 10% of SES positions government-wide, nor can they surpass 25% of a particular department's SES positions. See https://www.opm.gov/policy-data-oversight/senior-executive-service/overview-history/.

[13] For an exhaustive list of possible positions, see https://www.federalregister.gov/documents/2019/07/18/2019-15247/excepted-service-consolidated-listing-of-schedules-a-b-and-c-exceptions. Although Schedule C appointments are also part of the excepted service, we assign them a separate category due to the political nature of the appointment process.

[14] Appendix Figure D1 shows how the number of employees in our data varies over the 1997–2019 period.

[15] Specifically, L2 models party affiliation in the following states: HI, IL, WA, MT, ND, MN, WI, MI, VT, SC, MO, AL, TX, VA, and GA. In our data, the share of civil servants from these states is 28%.

proprietary machine-learning algorithms use an array of public and private data sources, including participation in primaries, demographics available through states' voter files, exit polling from presidential elections, commercial lifestyle indicators, census data, self-reported party preferences from private polling, and more. L2 does not guarantee that any single voter will self-identify as being associated with the assigned "likely" party, but it claims an accuracy level of 85% or better. We say that an individual is a Democrat or Republican if and only if L2 lists the person as such. All others are classified as "independent."

The L2 data come with two key limitations. First, we only observe individuals who are registered to vote. According to Census Bureau estimates, registered voters make up about 70% of voting-aged citizens (File, 2018). Second, we only observe individuals' partisan leanings at a single point in time. Given that changes in party registration tend to be rare, we interpret our measure as capturing a latent, time-invariant trait that proxies for the set of ideas and principles—in short, the political ideology—of each person.

2.3 Matching of OPM and voter registration records

To recover information on the partisanship of government employees, we link individuals in the OPM and L2 voter registration data using a combination of name, state of residence, and age. Overall, we are able to succcessfully match 1,263,181 out of the 2,809,907 bureaucrats in our sample, i.e., about 45%.[16] The fact that about 55% of federal bureaucrats remain unmatched could be due to one of three issues. First, our matching procedure is conservative. In particular, we do not allow for even minor discrepancies in the spelling of first and last names across both data sources. Second, we consider as unmatched all instances in which a bureaucrat is matched to multiple voter registration records, as well as all cases in which a registered voter is matched to multiple bureaucrats. Third, a significant fraction of bureaucrats is not registered to vote. Based on our analysis of data from the 2010–18 Voting and Registration Supplements to the Current Population Survey, only about 86% of civilian federal government employees are registered voters.[17]

Table 1 shows how matched and unmatched bureaucrats differ in terms of age, education,

[16] Among the successfully matched individuals, 77% are matched by name, year of birth, and state. Since we lack information on age for about 9.5% of federal employees, and since employees may reside in a state that is different than the state of employment, we also allow for less stringent matching requirements. 13.5% of the matched individuals are linked by name and year of birth, while 9.5% are matched by name and state. The matching rate is higher for people who are present in the data for a longer period, and it increases slightly over the 1997-2019 period. We match 46% of employees in 1997, and 54% of employees in 2019. Appendix Figure D2 reports success rates for each year over the sample period. For additional details on how we combine the OPM data with voter registration records, see Appendix F

[17] Given the likely direction of survey bias in this setting, it stands to reason that 86% is likely an upper bound on the true share of registered voters among federal bureaucrats.

experience, annual pay, and location of employment. Given the large sample size, the differences are precisely estimated. While we observe statistically significant differences, most of the magnitudes are relatively small.[18] For instance, matched bureaucrats are on average older and more educated. Relative to unmatched employees, matched bureaucrats are 3.5 p.p. less likely to be younger than 30. They are 1.9 p.p. more likely to have a four-year college degree, and 3 p.p. more likely to have some form of post-graduate education. These differences mirror those between registered and unregistered Americans in the general population. In the 2018 Voting and Registration Supplement to the Current Population Survey, about 24% of registered voters have a four-year college degree, and about 15% of registered voters have some form of post-graduate education. The corresponding shares among unregistered individuals are 11% and 4%. We see similar differences in terms of age, with an average age of 50.7 among registered voters and of 43.3 among unregistered individuals.

We also see differences between matched and unmatched bureaucrats in terms of experience and pay. On average, matched bureaucrats are present in the data for 8.9 additional quarters. At entry, matched bureaucrats earn an extra $2,404 per year on average (about 6% more than unmatched ones). Finally, matched bureaucrats are slightly less likely to be employed in D.C. at some point during the 1997–2019 period.

2.4 Procurement data

To relate political misalignment to tangible outcomes, we rely on U.S. federal procurement data covering 2004–2019. These data are collected through the Federal Procurement Data System (FPDS), and are made available through the FPDS-Next Generation database. For each procurement contract, the data list the initial procurement award and subsequent modifications (if any). We use this information to construct cost overrun and delay measures by comparing the initially projected costs and completion dates to realized costs and actual completion dates. Throughout our analysis, we focus on service and works contracts, since these are the types of contracts for which cost overruns and delivery delays are empirically most important. Given that our OPM data do not contain de-identified information for the Department of Defense, we drop all defense contracts.[19] We further impose a range of standard sample restrictions from the related procurement literature (Bajari and Tadelis, 2001; Kang and Miller, 2020). In particular, we disregard indefinite delivery vehicle (IDV) contracts as well as lease and rental contracts, and we limit the sample to contracts that

[18] We measure age, education, and pay at entry, namely as of the first quarter in which we observe the employee in the data in the 1973-2019 period. We measure experience as the total number of quarters in which we observe an employee in the data in the 1973-2019 period.

[19] Defense constracts account for about 58% of all procurement contracts in our sample period.

were performed within the U.S.[20] Finally, we probe the robustness of our results by restricting attention to contracts of at least USD 25,000, which results in the exact same sample restrictions as in Decarolis et al. (2020b). We winsorize at the 5th and 95th percentiles to remove outliers.[21]

Critical for our purposes, the raw procurement data also list the email address of the officer in charge of the contract. We exploit this feature of the data to identify individual officers and subsequently match them to our OPM data. Specifically, we first construct the universe of unique email addresses in the FPDS database, from which we drop those that do not contain a name (e.g., admin@dept.gov). We then extract individuals' names, the department and bureau for which they work. Before matching procurement officers to the OPM data based on name and bureau, we further enrich the data by linking email addresses to name directories in `govtribe.com`.[22] This last step is useful because email addresses of federal employees do not always contain their owner's middle or full first name. Our final dataset covers 718,362 procurement contracts created by 7,202 procurement officers across 132 departments and bureaus.[23]

3 Political alignment in the U.S. bureaucracy

In this section, we use our matched data to document three stylized facts about the political affiliation of bureaucrats in the U.S. federal government.

3.1 Fact 1: Partisan cycles among political appointees

We begin by documenting how the partisan leanings of political appointees covary with the party of the president. Since political appointments are the prerogative of the President, Vice President, or department heads, and in light of the fact that these staffing decisions constitute one of the few direct tools to align the bureaucracy with the goals of the White House (Pfiffner, 2001; Clinton et al., 2012), we expect significant cycles in the ideology of

[20] Indefinite delivery vehicle contracts reflect long-running contractual arrangements that do not exactly specify quantities ex ante. Contracts that are performed and delivered outside the U.S. have very different cost structures and are thus typically omitted (Kang and Miller, 2020).

[21] We show in Appendix Table B9 that our results are robust to alternative cutoffs for winsorizing.

[22] Govtribe is a private data provider that specializes in providing information on federal contracting and grant-making.

[23] Appendix Table B4 provides a step-by-step documentation of the sample selection process. For additional details on our selection and matching criteria, see Appendix G

political appointees.[24]

Figure 2 shows the raw share of political appointees that are affiliated with the Democratic party, with the Republican Party, and who are independent.[25] Consistent with the use of the spoils system to increase ideological alignment between politicians and top bureaucrats, we observe large partisan swings right around presidential transitions. The share of Democratic appointees falls from over 80% under Presidents Clinton and Obama to about 30% under Presidents Bush and Trump. The share of Republican political appointees increases from around 10% under Democratic presidents to more than 50% during Republican administrations. We do not observe similarly sharp cycles among independent appointees.

Table 2, Panel A reports regression estimates that more precisely quantify the magnitude of the observed shifts. In columns 1 and 3, we regress an indicator for whether a political appointee is a Democrat or Republican on an indicator for the party of the president and a linear time trend. In columns 2 and 4, we add bureau fixed effects in order to assess the extent to which political cycles are driven by parties' tendencies to increase their representation in specific bureaus. Under a Democratic president, political appointees are 49.7 p.p. more likely to be a fellow Democrat—a 152% change relative to years in which the president is a Republican. Political cycles are even larger for Republican appointees. Relative to years with a Democratic president, we observe an increase of 45.9 p.p., or 504%, when a Republican rises to power. We further note that the coefficients in Table 2 are essentially unaffected by the inclusion of bureau fixed effects.

Appendix Figure D3 and Appendix Table A1 report estimates of partisan cycles for each category of political appointment. Interestingly, we see larger effects for Noncareer SES and Schedule C appointees than for presidential appointments to top executive positions (cf. Panels A, B, and C of Appendix Table A1). This observation is consistent with the fact that the latter commonly require confirmation from the Senate, which may induce the president to either nominate more independents or a more-balanced mix of partisans. In a similar vein, Appendix Figure D3 shows that the partisan composition of Noncareer SES and Schedule C appointees changes discontinuously in the year of a presidential transition, whereas changes in the partisan composition for presidential appointees occur much more gradually—presumably due to delays in the process of their confirmation.

In columns 5–8 of Table 2, Panel A, we focus on new hires as a source of political cycles.

[24]Previous work documents the ideological proximity between the president and his political appointees, drawing on a variety of data sources, including the voting records of appointees who have previously served in Congress (Nixon, 2004), campaign donations (Bonica et al., 2015), or policy positions that cabinet members express during congressional testimony (Bertelli and Grose, 2011).

[25]In this figure, we pool all political appointments, i.e., presidential appointments, non-career SES, and schedule C appointees.

For each political appointee in our data, we keep the first observation in an employment spell and re-estimate the same econometric models as in columns 1–4. As one might suspect, selective hiring turns out to be an important factor in the emergence of political cycles. Under a Democratic administration, new appointees are 55 p.p. more likely to be copartisans of the president (col. 5), with a comparable point estimate for Republicans (col. 7). Again, controlling for bureau fixed effects does not affect our estimates. This suggests that partisan cycles in hiring are not due to a tendency to prioritize political appointments in departments and bureaus that already attract more employees of the president's party.

Finally, in Figure 3 we explore the exit margin. The figure shows how the share of political appointees that depart from their positions varies by party affiliation within two-year time windows around each presidential transistion in our data.[26] Whenever a new president takes office the share of political appointees who leave the bureaucracy spikes sharply. Although exit rates are lower among appointees that are politically aligned with the incoming adminstration, we observe significant churn irrespective of partisanship.[27] This pattern is consistent with anecdotal evidence according to which presidents use the tool of political appointments to staff the highest levels of the bureaucracy with individuals who, besides being ideologically aligned, can be personally trusted.

3.2 Fact 2: Political insulation of civil servants

Next, we ask how civil servants' appointments, career progression, and removals depend on ideological alignment with the current administration. Although formally insulated from political interference, there exist at least two potential mechanism that could lead to the emergence of political cycles among civil servants.

First, presidents and political appointees may attempt to exert control over civil service positions by manipulating extant personnel policies. Such strategies are known to have been used by the Nixon administration, which summarized them in the *White House Personnel Manual*. This "manual" was distributed to political appointees as a guide on how to fill positions with ideologically close individuals. In one prominent example, political appointees were instructed that, in order to induce a career executive to leave, "You simply call an individual in and tell him he is no longer wanted. [...] There should be no witnesses in the room at the time" (Subcommittee on Manpower and Civil Service, 1976, p. 163). Political appointees could also use transfers to remove unwanted employees from key positions, with the expectation that they would hire or promote individuals who were recommended by the

[26] We say that an employee leaves the position if we no longer observe the person in the following quarter. To avoid censoring we exclude the first quarter of 2019.

[27] In the Appendix, we present similar results for each type of political appointment (cf. Figures D6–D8).

White House (Cole and Caputo, 1979). More recently, the Trump administration has been accused of using reassignments in order to push out unwanted employees (Halper, 2017).

Second, civil servants may leave on their own accord if their ideological preferences are no longer aligned with the administration. For example, Trump's targeting of the Environmental Protection Agency's mission was reportedly responsible for the departures of several career employees (Plumer and Davenport, 2019). Additionally, prospective civil servants may not even apply for a position if they disagree with the overall direction of the organization.

We quantify the aggregate relevance of these channels in Figure 4 and Table 2, Panel B. The former depicts trends in the party affiliation of civil servants over time, while the latter presents regression estimates. In marked contrast to political appointees, there are no visually apparent partisan cycles among career civil servants. The share of Democrats remains nearly constant over the entire sample period, while that of Republicans exhibits a slight monotonic downward trend, which is offset by a corresponding increase in the fraction of civil servants that are independents. None of these trends appear to be affected by which party controls the government.

This impression is confirmed by the coefficients in columns 1–4 of Table 2, Panel B. Although our estimates are very precise—due to the size of our panel—they are economically small. Columns 5–6 focus on the entry margin. Again, there is very limited evidence of political interference, especially after controlling for bureau fixed effects. Contrary to what we documented in Panel A of the same table for political appointees, we do not observe clear political cycles among civil servants.

In line with this conclusion, Figure 5 shows no meaningful increase in exit rates around the Obama–Trump (Panel A), Bush–Obama (Panel B), and Clinton–Bush (Panel C) transitions. The quarterly exit rates in these panels range from 2% to 6%, and do not spike towards the end of an administration's term. We also do not observe differentially higher exit rates by party affiliation.[28]

In Appendix Figure D4 and Table A2, we report results separately by type of civil service position. While we find at most very small partisan effects in the competitive civil service, we do see some evidence of political cycles on the hiring margin in the excepted service and, especially, in the senior executive service. In quarters with a Democratic (Republican) president, new senior executive hires are 6.4% (11.6%) more likely to be fellow Democrats (Republicans). As shown in Appendix Figure D5, these partisan differentials in the hiring of senior executives are large enough to be visually apparent, especially when we compare the

[28]In Appendix Figure D12 we show trends in civil servants' exit rates at the EPA, whose mission directly conflicted with the goals of the Trump administration. For the EPA we do observe a significant increase in exits during the last quarter of the Obama and the first quarter of the Trump administration, with no corresponding change in departures around other presidential transitions.

Clinton to the Bush administration.[29] Given that employees in the senior executive service comprise less than 1% of federal bureaucrats, however, partisan cycles among this group of workers have almost no bearing on the aggregate make up of the civil service.

We also explore whether political alignment is associated with changes in earnings. To this end, we regress civil servants' log annual earnings on an indicator equal to one if they are aligned with the party of the president, individual fixed effects, and quarter (or quarter×bureau) fixed effects. In light of the rigid pay structure in the U.S. civil service, increases in a bureaucrat's compensation are best interpreted as progressions along the career ladder. The results from our regressions are shown in columns 1 and 2 of Table 3. They are very precise but provide no evidence of economically significant aligment effects on the compensation of civil servants.

We additionally investigate whether employees who are misaligned with the president's party are more likely to be transferred—a strategy that department heads may use to create vacancies in key positions. In particular, we focus on transfers away from D.C., which may be interpreted as assignments to less prestigious jobs. The results are shown in columns 3–6 of Table 3. Since the former may be more likely to be targeted by the administration, we separately consider members of the SES and non-SES civil servants. Once again, we do not observe economically significant alignment effects.

In sum, we find very limited evidence that political cycles affect civil servants' careers. The insulation of most civil service positions from political interference makes it difficult for the administration to facilitate the hiring or promotion of ideologically aligned bureaucrats. We also find limited evidence of differentially higher departure rates among misaligned bureaucrats. Two potential reasons could explain this null result. First, for most bureaucrats, the benefits of a long-term career in the federal government may outweight the intrinsic costs of temporarily serving an objectionable administration. Second, misaligned bureaucrats may decide to remain in the federal government as a way to influence the direction of the organization from within the system.[30]

[29] Appendix Figures D9, D10 and D11 present trends in exit rates for each group of civil servants.

[30] This rationale is explicitly mentioned in a 2017 *Washington Post* opinion column by a senior U.S. diplomat. Despite leaving his post following the Trump administration's decision to withdraw from the Paris Agreement, he invited his colleagues to remain in their positions "so that they can continue to work within the system to make things a little bit better, a little bit at a time." (link)

3.3 Fact 3: Democratic plurality among career civil servants

3.3.1 Democrats are overrepresented among civil servants

We now turn to our third (and last) stylized fact: Democrats make up the plurality of civil servants. Figure 4 shows that the share of Democratic-leaning civil servants hovers around 50% across the entire 1997–2019 period. By contrast, the share of Republicans ranges from approximately 32% in 1997 to about 26% in 2019, with a corresponding increase in the share of independents. To put these numbers into perspective, the share of Democrats in the universe of individuals in our voter registration data is 40.8%, while the share of Republicans is 30.7%. This implies an overrepresentation of Democrats among federal civil servants of about 10 p.p., or about 20% relative to their share in the population.[31]

3.3.2 Heterogeneity across departments

Appendix Figures D14 and D15 report partisan shares of civil servants for all departments (except the DoD) as well as the two largest independent agencies, i.e., the EPA and the Social Security Administration. The evidence therein shows that Democrats are overrepresented in most departments. With around 70% each, the EPA, the Department of Education, and the State Department employ the highest share of Democrats. The most conservative departments by this measure are Agriculture and Transportation, where we observe near parity of Democrats and Republicans—which, of course, means that, relative to the general population, Democrats are underrepresented in these departments.

We next evaluate how our department-level measure of partisanship correlates with existing expert assessments of ideological leanings across departments. Figure 6 plots the share of Democrats in a particular department against the department-level ideology scores of Clinton and Lewis (2008). The latter are based on a 2006 survey of 39 experts in bureaucratic politics (i.e., leading academics, journalists, and members of Washington think tanks). For each department, the respondents were asked to indicate whether the department had "policy views due to law, practice, culture, or tradition that can be characterized as liberal or conservative." Clinton and Lewis (2008) then calculate ideology scores by estimating an item-response model, which explicitly allows for systematic differences among survey respondents. Reassuringly, we find that experts' assessments of a department's ideology are, indeed, significantly correlated with the share of Democrats in the same department. The departments that are identified as strongly liberal—most notably, Education, Labor, EPA,

[31] In Appendix Figure D13, we show that the same conclusion holds if we adjust these numbers for partisan differences across states. In other words, Democrats are overrepresented among civil servants even after accounting for the state of employment.

Health and Human Services, and Housing and Urban Development—are among those with a higher-than-average presence of Democrats. At the same time, we note that some of the departments that the experts identified as very conservative, such as the Department of Commerce, have, in fact, a strong democratic presence.

3.3.3 Democrats' representation increases along the hierarchy

Our data further reveal that Democrat civil servants are especially overrepresented in the higher layers of the bureaucracy. To show this, we focus on career employees of the Senior Executive Service (SES) and on employees in the General Schedule (GS). The GS is the classification system that covers the majority of white-collar federal bureaucrats. It is composed of 15 grades, with increasing levels of responsibility and qualifications requirements. Advancement between grades depends on a combination of seniority and merit.[32] Given that only GS grades 13–15 include managerial positions, we can distinguish between three layers of hierarchy in the civil service: simple white-collar positions (GS grades 1–12), managerial positions (GS grades 13–15), and senior executives (SES).[33]

Panel A of Figure 7 shows that the overrepresentation of Democrats increases as we move up the hierarchy. Among employees in grades 1-12 of the GS, we find about 50% of Democrats (30% of Republicans and 20% of independents), which rises to approximately 56% at the top of the GS (grades 13-15), and to 63% among career SES.[34]

Intriguingly, this finding appears to be driven in large part by selection on observables. First, Democrats have, on average, higher levels of human capital than Republicans. In Table 4, we report estimates from regressing indicators for educational attainment on a bureaucrat's political affiliation. In order to measure education at entry, we restrict the sample to the first quarter in which the employee is observed.[35] According to our results, Democrats are 6.6 p.p. more likely than Republicans to hold a college degree (column 1), and 8.3 p.p. more likely to have some form of post-graduate education (column 4). We continue to observe differences in human capital after controlling for bureau (columns 2 and 5) and pay-level fixed effects (columns 3 and 6)—although the gap between Democrats and Republicans does narrow. The pattern of coefficients in Table 4, therefore, suggests that higher human capital allows Democrats to be hired in bureaus and occupations that require more advanced skills as well as at higher steps of the hierarchy (see also Appendix Table A3).

[32] See link for details.

[33] Among the set of bureaucrats for whom we have information on partisan affiliation, 72% of bureaucrat-quarter observations belong either to the GS or to the career SES. Among them, approximately 70% belong to grades 1–12 of the GS, about 29% belong to grades 13–15 of the GS, and only 1% are career SES.

[34] Appendix Figure D16 shows that the same basic pattern is present throghout the entire sample period.

[35] Since an individual may enter the sample several times when exhibiting multiple employment spells, we cluster standard errors by individual.

Moreover, the fact that there do remain residual differences after accounting for bureau and pay grade implies that, even *within* comparable jobs, Democrat civil servants tend to be positively selected.

In addition to being positively selected at the time of hire, Democrats are more likely to be promoted after they enter the bureaucracy. In Table 5, we present estimates of partisan differences in promotions from grades 13–15 of the GS to the career SES (columns 1–3), as well as promotions from grades 1–12 of the GS to grades 13-15 (columns 4–6).[36] Given that promotions are rare events at the quarterly level, all estimates in Table 5 are multiplied by 1,000. The results show that Democrats are more likely than Republicans to be promoted to higher levels of the hierarchy (columns 1 and 4), with a sizeable share of the gap being attributable to differences in educational attainment and the bureaus in which they serve (columns 2–3 and 5–6).[37]

The second factor that helps to explain greater overrepresentation of Democrats at higher levels of the bureaucracy is their lower propensity to exit. To illustrate this, Panel A of Figure 8 plots survival curves by partisan affiliation. While about 5% of civil servants of either party exit after the first quarter, the share of those who remain within the federal government as time progresses is significantly higher for Democrats. In Panel B of Figure 8, we repeat the exercise in regression form, controlling for bureau × quarter-of-entry fixed effects. After 10 years, Democrats are about 4.5% more likely than Republicans and independents to be still employed in the civil service.

In sum, even conditional on pay grade, Democrats have higher levels of human capital when they enter the bureaucracy, and, once they enter, they are less likely to exit the civil service. Taken together these facts may hint at a higher proclivity for public service.

In Panel B of Figure 7, we empirically substantiate the claim that selection on observables explains most of the widening gap in the share of Democrats and Republicans in managerial and senior executive positions. The figure presents estimates of β^{TopGS} and β^{SES} in the following regression model:

$$Democrat_i \quad = \quad \beta^{TopGS} \cdot Top\ GS_{it} + \beta^{SES} \cdot SES_{it} + X'_{it}\gamma + \varepsilon_{it}. \tag{1}$$

The unit of observation is an individual bureaucrat i, observed in quarter t. $Democrat_i$ is an indicator equal to one if the bureaucrat is a Democrat, while $Top\ GS_{it}$ and SES_{it} indicate whether, in t, i held a position in either grades 13–15 of the GS or as a career SES. By

[36] Most of the promotions to grades 13–15 of the GS are from lower GS grades, whereas most of the promotions to career SES positions are from grades 13-15 of the GS. Only 5% (12%) of new appointments to grades 13–15 (career SES) are from other positions within the federal bureaucracy.

[37] In unreported results, and consistent with our null findings in Table 3, we detect no significant alignment effects on promotions.

construction, β^{TopGS} and β^{SES} measure the extent to which we observe a higher presence of Democrats (relative to Republicans and independents) as we move from grades 1–12 of the GS to higher steps of the hierarchy.

We estimate four versions of the regression model in Equation 1, with different sets of controls (i.e., X_{it}). The baseline specification only includes quarter fixed effects. We then progressively add bureau $\times$ quarter fixed effects, a measure of experience (i.e., the number of quarters i had served in the federal bureaucracy up to time t), and education fixed effects. As shown in Panel B of Figure 7, each control explains part of the increase in Democratic overrepresentation along the hierarchy. Collectively these three factors explain essentially all of the differences relative to grades 1–12 of the GS. This suggests that greater overrepresentation of Democrats among high-ranking bureaucrats is a result of differential sorting into bureaus and selection on observables.

4 Ideological alignment and procurement performance

Our descriptive analysis shows that, at any one point in time, a sizeable share of federal bureaucrats are ideologically misaligned with the administration they serve. This raises the question of whether (mis)alignment has any bearing on their performance.

Since our analysis covers the vast majority of federal workers, obtaining a comparable measure of performance among such a varied set of employees is difficult. To make progress, we focus on a subset of bureaucrats that specialize in fulfilling a comparable and important function across all arms of the federal government: procurement officers. Procurement officers are in charge of purchasing a wide range of goods and services on behalf of the government. They play a crucial role in both the ex ante selection of buyers and the ex post monitoring of contract execution. Procurement contracts make up a sizeable share of the federal budget. In 2017, the combined value of these contracts amounted to 9.3% of the U.S. gross domestic product.[38]

Appendix Figure E19 shows the share of procurement officers by party over time. The patterns therein mirror Facts 2 and 3 above. That is, we do not observe partisan cycles, and Democrats make up the largest share of officers.

4.1 Empirical evidence

To study the implications of ideological misalignment among procurement officers, we construct two measures of performance: in-scope cost overruns and delays. Cost overruns and

[38] Congressional Research Service (2021). IF11580, v. 4 UPDATED.

delays constitute ex post deviations from the initial contract and are standard measures of contract performance in the procurement literature (see, e.g., Bajari and Tadelis, 2001; Decarolis et al., 2020b; Kang and Miller, 2020). Each measure is defined as the difference between the realized and the (ex ante) expected outcome, relative to the initial expectation.[39] In symbols:

$$\text{cost overrun}_j = \frac{(\text{actual cost}_j - \text{initial cost}_j)}{\text{initial cost}_j}, \tag{2}$$

where actual cost_j is the ex post realized cost, and initial cost_j denotes the expected cost of contract j. We construct our measure of delay in the same way.

With these performance measures in hand, we estimate the following contract-level regression model:

$$y_j \quad = \quad \beta \cdot \textit{Politically aligned}_{I(j)T(j)} + \theta_{I(j)} + \tau_{T(j)} + \varepsilon_j \tag{3}$$

where y_j is the procurement outcome of contract j (e.g. its cost overrun), which was created in year $\times$ month $t = T(j)$. $i = I(j)$ denotes the procurement officer who created it, and $\textit{Politically aligned}_{I(j)T(j)}$ is an indicator equal to one if and only if the officer is affiliated with the same party as the president when the contract was created. $\theta_{I(j)}$ and $\tau_{T(j)}$ are procurement officer and year $\times$ month fixed effects, respectively. To account for the fact that officers handle multiple contracts, we cluster standard errors at the officer level.[40]

To see how β is identified, note that turnover in the White House creates shocks to the political alignment of individual procurement officers. Since we control for time fixed effects, β is identified by comparing over-time changes in the performance among officers who experience shocks, i.e., officers who switch from being aligned with the apex of government to being misaligned and vice versa.

Results from estimating our baseline specification in Equation 3 are reported in column 1 of Table 6. Procurement officers who are ideologically aligned with the president have, on average, lower cost overruns. The estimated effect size is economically significant, amounting to 1% of initial contract value, which corresponds to about 8% of the average overrun.

In column 2, we assess whether lower cost overruns for aligned officers are driven by differences in workload or procurement tasks. If ideologically aligned procurement officers enjoy a lighter workload or are assigned simpler contracts, then smaller overruns may reflect

[39] This definition follows Carril et al. (2021). Our results are robust to using alternative measures, such as those in Decarolis et al. (2020b).

[40] In Equation 3, *Independents* are never aligned and experience no changes in alignment. They, therefore, do not contribute any identifying variation. Including them, however, helps to improve the precision of our estimates by pinning down $\tau_{T(j)}$.

differential task assignment rather than better performance. To that end, we add controls for a wide range of contract characteristics, such as initial contract size, expected duration, award type fixed effects, fixed effects for the type of contract pricing, industry fixed effects, as well as product and service type fixed effects. We also control for the total number of contracts a given officer has created in the same year and month. The coefficient of interest, however, remains virtually unchanged.[41]

In column 3, we include even more-granular fixed effects, comparing only procurement officers in the *same* department and year. If the observed alignment effects were driven by departments with more aligned procurement officers receiving lighter workloads or easier procurement tasks, then we would expect the point estimate to noticeably decrease after controlling for bureau $\times$ year fixed effects. This is not the case.

Our measure of political alignment in columns 1–3 of Table 6 captures ideological congruence between procurement officers and the White House at the time of contract award. The execution of larger and longer term contracts, however, can span multiple presidencies.[42] In addition to alignment at the time of the award, there is thus intensive margin variation in how long contracts were managed by an aligned officer. We exploit this fact to refine our measure of alignment by computing for what fraction of a given contract's life-cycle the assigned procurement officer was ideologically aligned with the current administration. By contruction, this new measure varies continuously between zero and one.

Columns 4 and 5 of Table 6 replicate our baseline results using our refined measure of alignment. Reassuringly, the results are, if anything, somewhat larger and more precise. In other words, contracts that were handled by an officer that was aligned for a longer period of time exhibit significantly lower cost overruns. In fact, as shown in Figure 9, the relationship between our continuous measure of alignment and cost overruns appears to be approximately linear (conditional on controls).

In the Appendix, we provide a series of additional robustness checks for our main finding. In Appendix Table B7, we show that the results are robust to alternative definitions of cost overrun. Following Decarolis et al. (2020b), we also restrict the sample to contracts over \$25,000. These tend to be contracts that are more complex and for which discretion—and hence the individual officer's effort—is likely more important. Consistent with this view, we find larger alignment effects for contracts over \$25,000 (cf. Appendix Table B8). Appendix Table B9 shows that the results are also robust to using a variety of alternative thresholds for dropping outliers. Finally, we find alignment effects for both presidential transitions in

[41] As Appendix Table B6 shows, contract type and workload are essentially uncorrelated with political alignment.

[42] In our sample, 6.2% of contracts span two presidencies. These are also contracts that tend to require more monitoring and for which ex post modifications are more frequent.

our data (i.e., Bush–Obama, and Obama–Trump), which suggests that our results are not driven by the peculiarities of the Trump presidency (cf. Appendix Table B10).

In Table 7, we consider a range of additional procurement outcomes that could perhaps offset any negative effect on cost overruns. In column 1, we examine whether the contract was prematurely terminated.[43] The probability of contract termination does not differ significantly by political alignment. In column 2, we ask whether delays vary significantly with alignment. Our measure of delay is constructed in the same fashion as the cost overrun measure in Equation 2. Again, we do not find any evidence to suggest that delays systematically vary with political alignment. In columns 3–5, we study the number of ex post contract modifications, whether contracts were awarded based on an open competition, and, finally, the number of bidders. Overall, we do not find offsetting positive effects of political alignment on other procurement outcomes; and, with the exception of the bidder margin, all of our null effects are precisely estimated.

Taken together, the evidence in this section suggests that ideological misalignment of individual officers has a nontrivial impact on cost overruns. Since there appear to be no counterbalancing effects on other margins, we conclude that political misalignment is detrimental to contract performance.

4.2 Discussion and mechanisms

Our research design compares the performance of contracts assigned to the same officer over time. Since we address the potential for changes in task assignment by conditioning on a rich set of observable contract characteristics, the perhaps most likely mechanism behind the effect of political alignment on cost overruns is, in our view, differential effort.

There are at least two reasons for why we may expect to see procurement officers' effort to vary with ideological alignment. One explanation is that performance is rewarded less when civil servants are misaligned with the apex of the government. To the extent that procurement performance and political alignment are complements for career progression, the incentives that civil servants face might induce them to exert greater effort when they are aligned. An alternative explanation may be a general "morale effect," whereby misaligned civil servants are less motivated. This latter channel is succinctly described by Besley and Ghatak (2005), who argue that "the productivity of the bureaucracy will change endogenously if there is a change in the mission due to the principal being replaced, unless there is immediate rematching. This provides a possible underpinning for the difficulty in reorga-

[43] Terminations are rare events in which the contract is either terminated due to the failure of the seller to meet contractual obligations (terminate for default), or because the procurement good or service was no longer needed (terminate for convenience).

nizing public sector bureaucracies and a decline in morale during the process of transition" (p. 629).

4.2.1 Promotion incentives

We investigate whether promotion incentives change with alignment by aggregating our contract-level panel to the procurement officer-quarter level. This allows us to relate career progression events to cost overruns and delay as well as their interactions with political alignment. We focus on four measures of career progression: promotions (defined as an increase in the officer's paygrade), demotions (a decrease in paygrade), exit from the civil service, and annual pay. The results are reported in Table 8. Given the rare nature of promotion, demotion and exit events, the respective coefficients are scaled by 100 to correspond to percentage point changes. Our two performance measures in these regressions are the average relative cost overrun and the average delay of projects that were completed in the same quarter, both of which are standardized to have a mean of zero and a standard deviation of one.

We find no evidence that career progression patterns change markedly with alignment. In Table 8, Column 1, the dependent variable is an indicator for promotions. We do not find that officers with greater cost overruns or delays are less likely to be promoted, and, importantly, we do not observe that the link between our two measures of performance changes significantly with alignment. In column 2, the dependent variable is an indicator for demotions. According to our estimates, greater delays increase the likelihood of demotion; but the relationship is nearly equally strong for aligned and misaligned officers. We also find that higher cost overruns are associated with *fewer* demotions, with a statistically significant difference by alignment. The sign of the interaction term, however, is inconsistent with greater promotion incentives and its magnitude is economically quite small.[44] If anything, the results in column 2 thus suggest that alignment and performance may be substitutes, which would imply *negative* incentive effect. The estimates for exit are likewise inconsistent with positive incentive effects (column 3). Finally, column 4 examines total pay. Total pay is the only category of career outcomes, for which our estimates imply positive incentive effects. Their magnitude, however, is economically small. Among politically aligned officers, a 1 SD increase in delays is associated with only 0.1% lower pay. Taken together, the results in Table 8 are mixed, suggesting that differential promotion incentives are unlikely to be a major driver of the observed alignment effects.

[44]The differential change in the likelihood of demotion in response to a 1 SD increase in cost overruns is only 2.7% when compared to the mean demotion rate.

4.2.2 Morale effects

We now provide evidence consistent with a morale effect. To that end we make use of the Federal Employee Viewpoint Survey (FEVS). Collected by the Office of Personnel Management (OPM), this survey measures employees' perceptions and attitudes towards their workplace. FEVS is designed to be representative of non-political, non-seasonal federal workers, and repeated cross-sections are regularly drawn in proportion to office size. The electronic survey is administered to both full-time and part-time employees of departments and large independent agencies. The mean response rate is 47%.[45] We use data for 2006–2019, for a total of 4,949,609 responses.

There are two important limitations to the FEVS. *(i)* It does not elicit partisanship, and *(ii)* respondents remain anonymous. Together these make it impossible for us to precisely measure ideology for any given individual. To address this issue, we resort to imputing respondents' likely political affiliation. As we discussed in Section 3.3, there exists significant variation in the share of Democrats and Republicans across departments. Similarly, gender and minority status are strong predictors of partisanship.[46] Our imputation procedure proceeds by calculating the share of Democrats in each sex × minority-status × department cell. We focus on Democrats as they comprise the plurality across 90% of the cells. We then define respondents to be *Likely Democrats* if the share of Democrats in their cell is larger than 50%.[47] Using this definition, 40 out of the 64 sex × minority-status × department cells are classified as *Likely Democrat*.[48]

To test whether the political alignment of individual i in year $t = T(i)$ affects their morale and attitude towards their department's mission, we estimate the following regression model:

$$y_i \;=\; \beta \cdot \textit{Likely Democrat}_i \cdot \textit{Democrat President}_{T(i)} + \tau_{T(i)} + \mu_i + \varepsilon_i \tag{4}$$

where y_i captures agreement with different statements on the survey (e.g., "The work I do is important"). These responses are measured on a Likert scale (ranging from 1=Strongly disagree to 5=Strongly agree), which we standardize to have a mean of zero and a standard deviation of one. $\textit{Likely Democrat}_i$ is our imputed indicator for whether an i is a likely Democrat (as opposed to a Republican/Independent) and $\textit{Democrat President}_t$ denotes an

[45] This number is from the published *Technical reports* available online for 2008–2019.

[46] In our data, the share of Democrats is 54% for female civil servants but only 42% for men. Similarly, the share of Democrats is 69% for minorities and 40% for non-minority federal employees.

[47] Since most of the variation in party shares is driven by Democrats, a limitation of this design is that we are only able to rely on a (likely) Democrat vs. Republican/Independent comparison. We do not have sufficient variation to separately disentangle Republican/Independents.

[48] Our results are qualitatively robust to using alternative definitions, such as a continuous probabilistic measure (cf. Appendix Table C12).

indicator equal to one if the president in year t is a Democrat (as opposed to a Republican). The key coefficient of interest is β, which captures the differential response of a likely Democrat under a Democrat president. $\tau_{T(i)}$ are year fixed effects, and μ_i are sex $\times$ minority $\times$ bureau fixed effects. We cluster standard errors at the sex $\times$ minority$\times$ department level, corresponding to the level at which our imputed measure of partisanship varies.

In Figure 10, we report how civil servants' assessment of the general morale (Panel A) and perceived identification with the mission (Panel B) varies with political alignment. Each row reports the estimated coefficient on the interaction term in the model above (i.e., $\hat{\beta}$) for a different survey outcome.[49] This estimate measures how the attitudes of "likely Democrats" change when they become politically aligned. Consistent with a general morale effect, likely Democrats report that they find their work significantly more important and are more willing to exert more effort when they are politically aligned with the president (Panel A). The size of the estimated coefficients is comparable across all morale measures. In Panel B, we investigate the impact of alignment on attitudes towards the organization's mission. The results suggest that Democratic civil servants are more likely to identify with the mission of their organization when serving under Democratic presidents. Once again, the estimates are similar across all measures of mission and when using a combined index (for which we average across individual outcomes to obtain a summary measure). Taken together, our results provide suggestive evidence of a greater "morale effect" due to alignment.

5 Conclusion

A central question in the governance of any organization is how to align the objectives of leaders with those of their subordinates. In this paper, we turn to the U.S. federal bureaucracy to study the role of mission alignment in organizations.

To this end, we combine administrative data on the near universe of federal government workers with data on all registered voters in the U.S. The resulting dataset allows us to shed some of the first light on the ideological leanings of a large number of individual civil servants, and thereby peek into the black box of "bureaucratic politics."

We establish three stylized facts. First, politicians do use the limited power they have over personnel policies in order to achieve greater ideological alignment between themselves and the upper echelon of the bureaucracy. The political cycles in our data are consistent with the use of the spoils system to better align the highest layers of the bureaucracy with the goals of the president. Second, we find a remarkable degree of political insulation among career civil servants. In contrast to political appointees, we see virtually no political cycles

[49] The regression tables can be found in Appendix Table C11.

in the civil service. Our findings, therefore, suggest that, at its lower levels, the federal government resembles a "Weberian" bureaucracy, which is largely protected from political interference. Third, Democrats make up the plurality of civil servants. In addition, we show that Democratic civil servants are especially overrepresented in higher layers of the bureaucracy. Any observed difference in career progression, however, is in large part due to selection on observables. Democratic-leaning bureaucrats have on average higher levels of educational attainment, and they are less likely to exit the civil service, which results in a greater accumulation of experience. Both of these two facts are consistent with the idea that Democrats have a higher proclivity for public service.

The existence of an impartial and politically insulated career civil service is often seen as the hallmark of good governance and a "Weberian state." While the insulation of the career civil service prevents political interference, civil servants may have their own preferences and ideological leanings, which can conflict with those of the president. As a consequence, to implement an administration's agenda, politicians and department heads often need to work with bureaucrats whose personal values are not aligned with the present mission of the organization. To shed light on the costs of such misalignment, we focus on a subset of civil servants who work across all departments of the government and for whom we can measure performance: procurement officers. Linking procurement contracts to the matched personnel and voter registration data allows us to study the mission-alignment of procurement officers across nearly all departments of the federal bureaucracy. Strikingly, we find that political misalignment increases cost overruns by 8%. We provide evidence that suggests that a general "morale effect" is an important mechanism behind this finding, whereby bureaucrats who are ideologically misaligned with the organizational mission have lower motivation. As political turnover leads to sizable mission-misalignment between politicians and civil servants, our findings provide direct evidence on the costs of political insulation of the bureaucracy, which should be traded off against the benefits of avoiding political interference. As more and more organizations embrace a mission-driven focus, our findings may have implications beyond the public sector.

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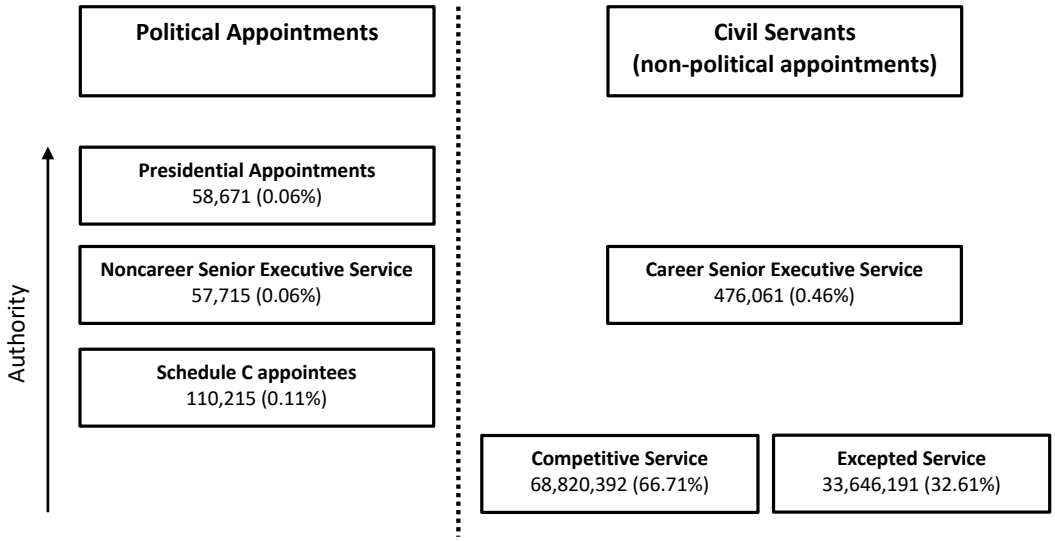
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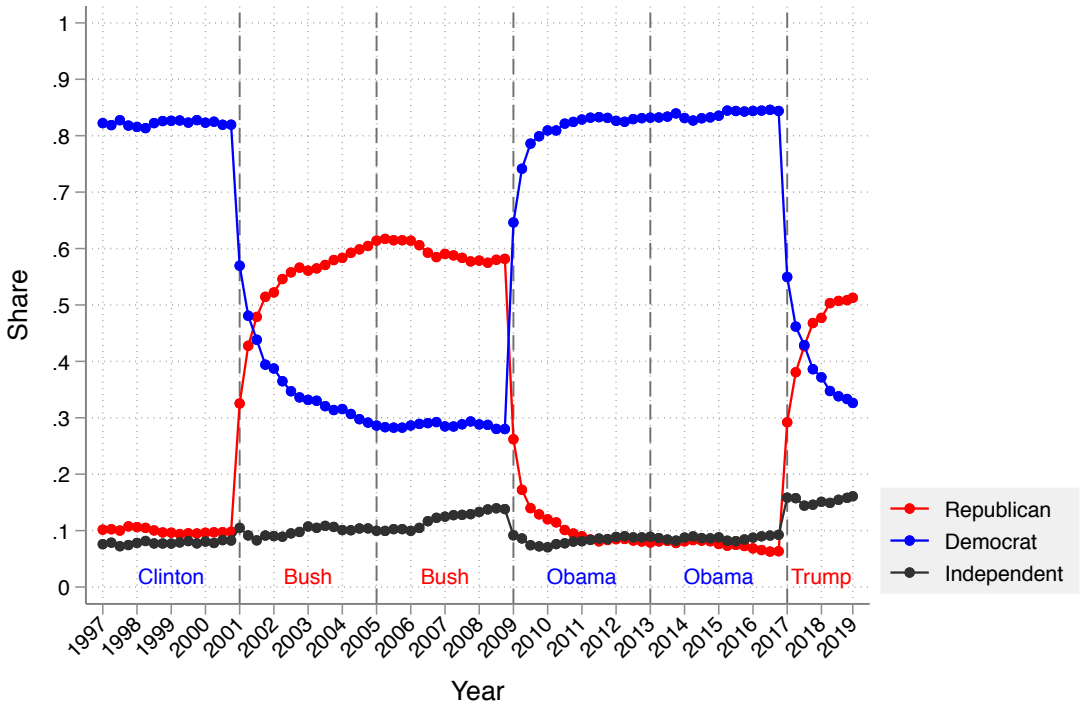
Figures and Tables

Figure 1: Categorization of Positions in the U.S. Federal Bureaucracy



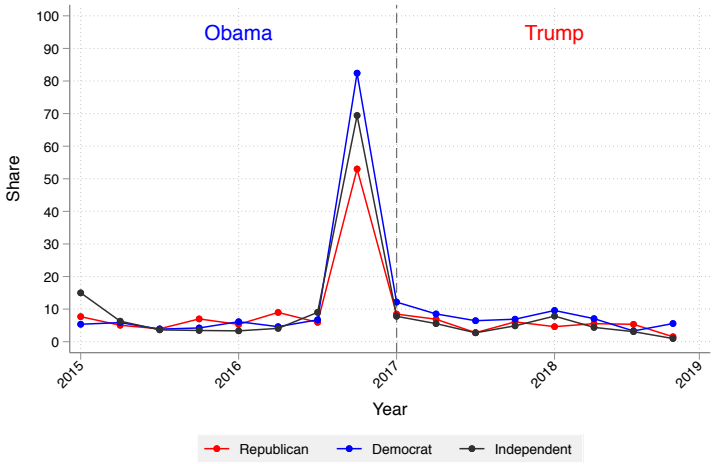
Notes: Breakdown of positions in the U.S. federal bureaucracy by the type of appointment (political appointments vs. non-political civil service appointments). The numbers reported are the total number of unique employee-quarter observations in each position type between 1997-2019. The shares are shown in parentheses.

Figure 2: Partisan Affiliation of Political Appointees

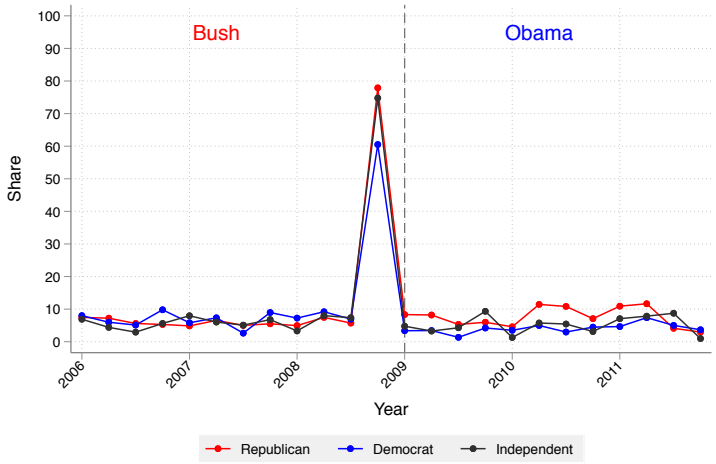


Notes: Share of political appointees (presidential appointments, non-career senior executive service, schedule C appointees) by party over time. Dashed vertical lines mark presidential terms.

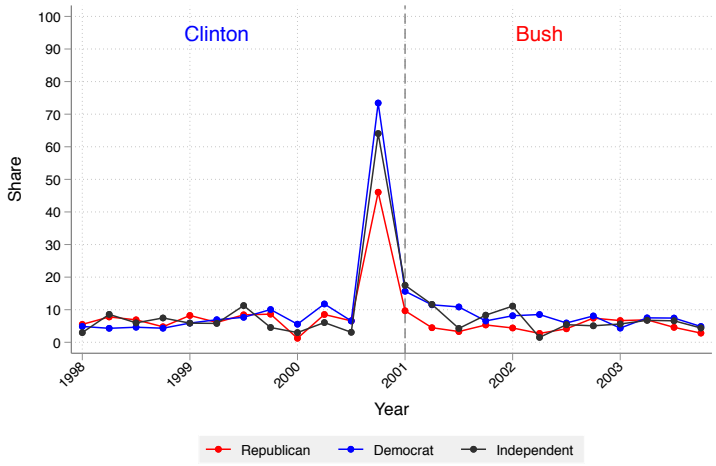
Figure 3: Share of Political Appointees Leaving Around Presidential Transitions



(a) Obama-Trump Transition



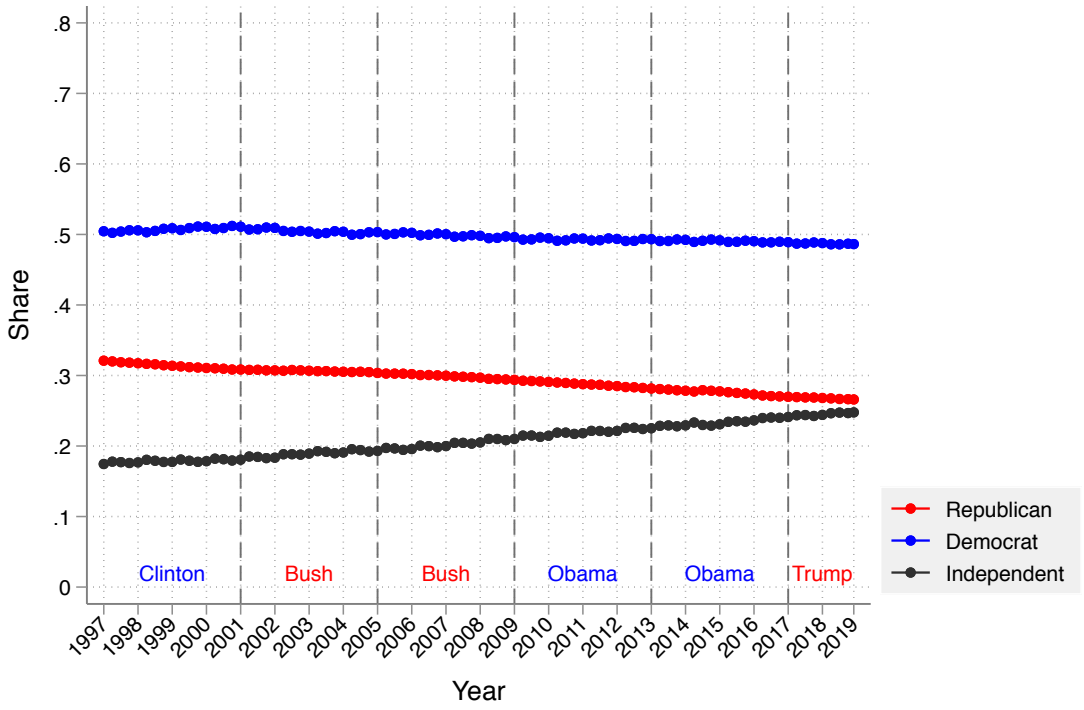
(b) Bush-Obama Transition



(c) Clinton-Bush Transition

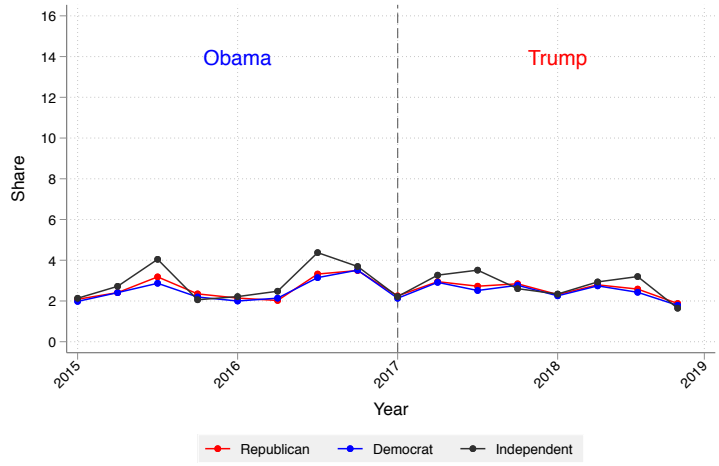
Notes: Share of exits among political appointees around presidential transitions. Exit at t takes place if an individual is present in quarter t and not in $t+1$. Dashed vertical line marks the first quarter in the year of the transition.

Figure 4: Partisan Affiliation of Civil Servants

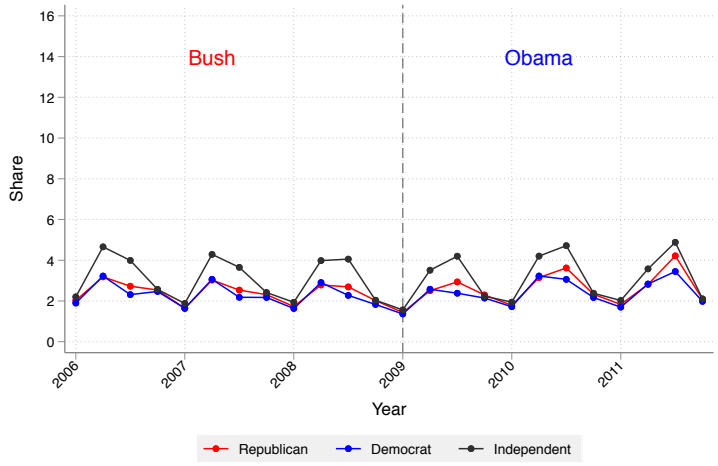


Notes: Share of other (non-political) civil servants (competitive service, career senior executive service, excepted service) by party over time. Dashed vertical lines mark presidential terms.

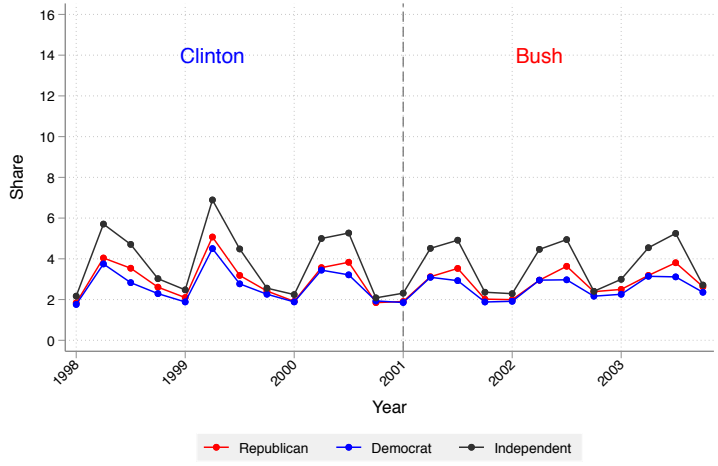
Figure 5: Share of Civil Servants Leaving Around Presidential Transitions



(a) Obama-Trump Transition



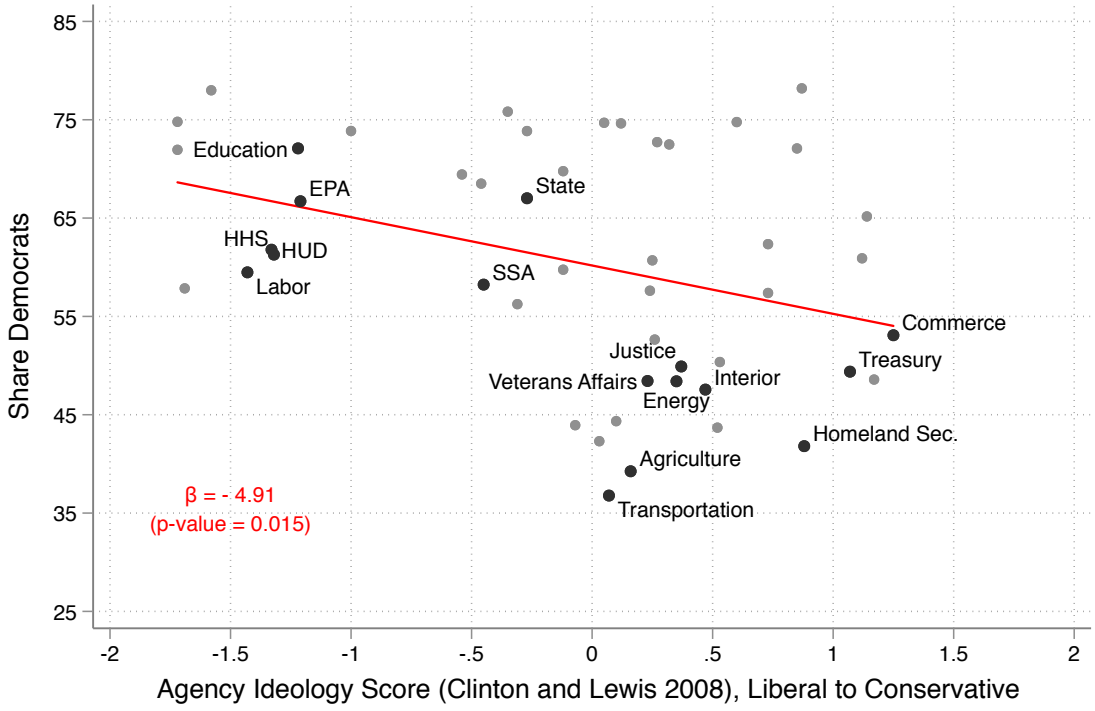
(b) Bush-Obama Transition



(c) Clinton-Bush Transition

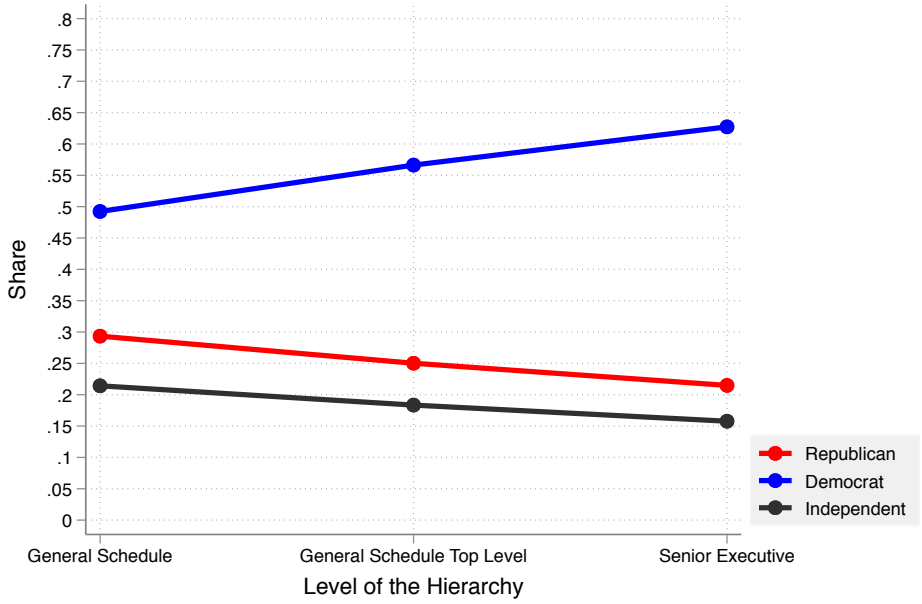
Notes: Share of exits among (non-political) civil servants around presidential transitions. Exit at t takes place if an individual is present in quarter t and not in $t+1$. Dashed vertical line marks the first quarter in the year of the transition.

Figure 6: Share of Democratic Employees and Agency Ideology Score (Clinton and Lewis 2008)

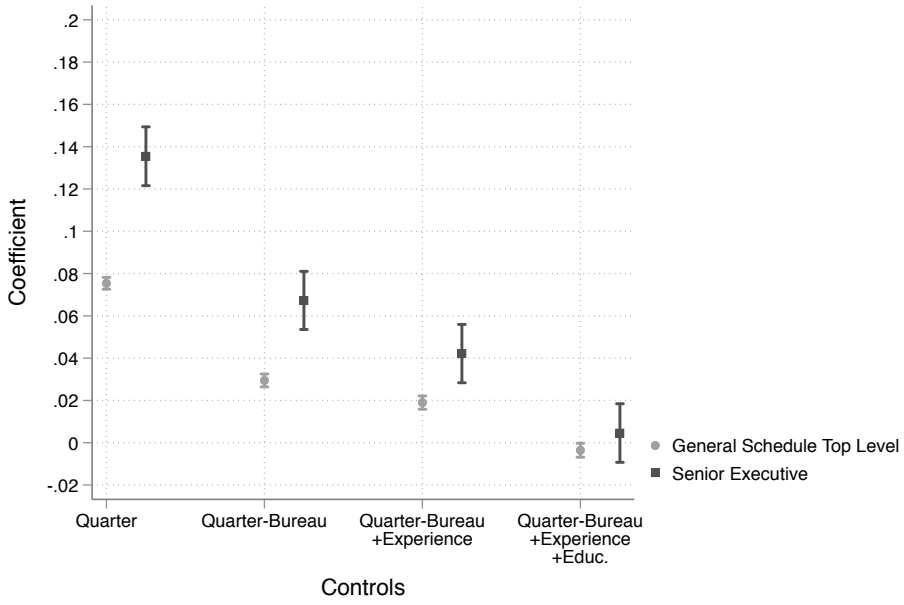


Notes: Relationship between the share of Democrats in the OPM data and the Agency Ideology Score of Clinton and Lewis (2008), which measures expert assessments' of the degree to which a department or agency is liberal (low) to conservative (high). The graph includes all departments and major agencies for which we observe at least 100 civil servants in our data. Departments and the largest agencies are highlighted. The best-fit line, coefficient and p-value are from a regression of Share Democrats on the Agency Ideology Score, using data from all departments and agencies with at least 100 civil servants in our data.

Figure 7: Share of Democratic Employees Increases Along the Hierarchy



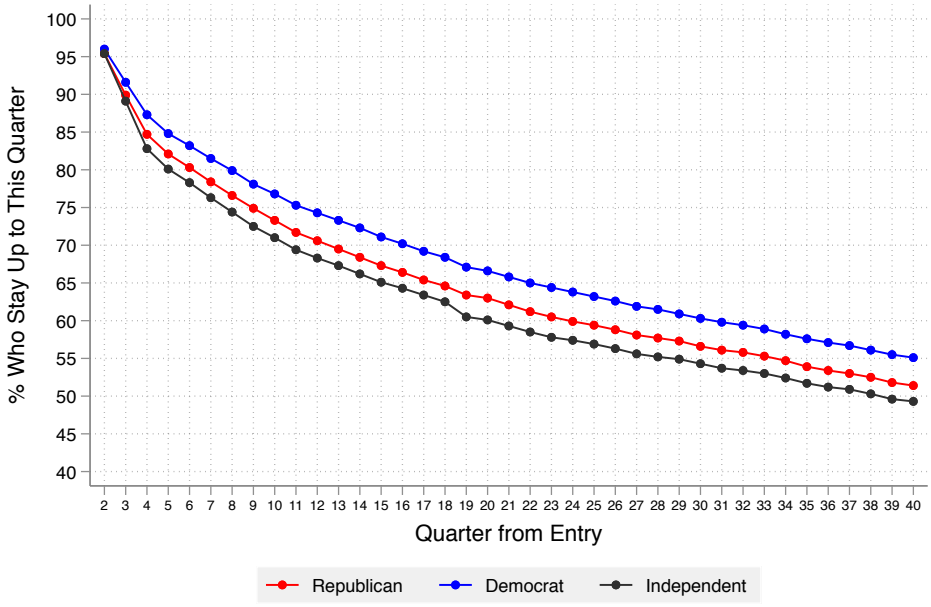
(a) Average Share of Democrats Along the Hierarchy



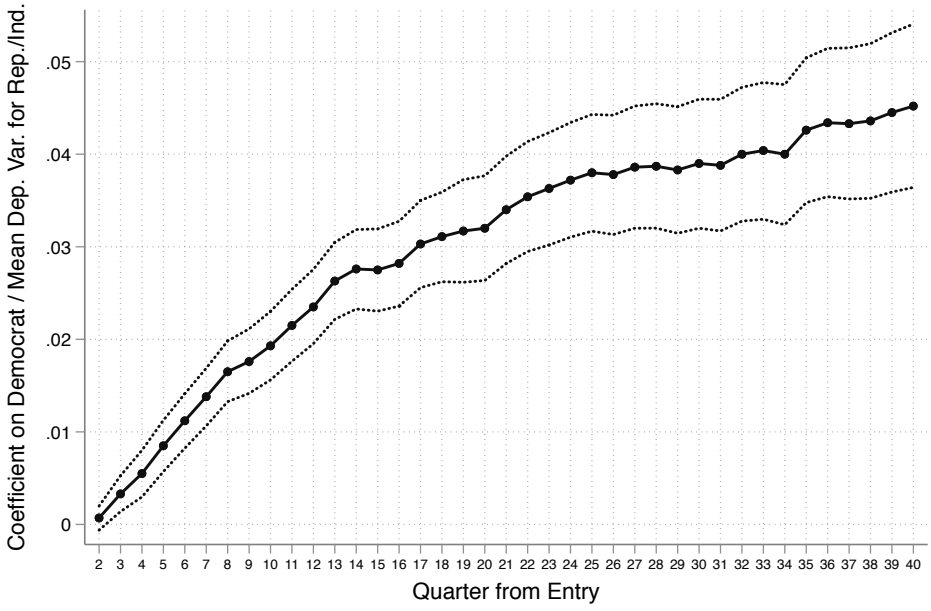
(b) Increase in Democratic Presence Relative to General Schedule Level

Notes: Panel (a) shows the share of civil servants by party at the lower General Schedule level (below grade 13), the top General Schedule level (grade 13 or above) and the Senior Executive level. Panel (b) reports coefficients from estimating four different versions of Equation 1, and show the gap in the share of Democrats at the top General Schedule level and the Senior Executive level relative to the lower General Schedule level. These gaps are reported after conditioning only on quarter fixed effects, on bureau-quarter fixed effects, adding a control for the number of quarters of experience in the federal bureaucracy, and adding education level fixed effects. Reporting 95% confidence intervals, based on standard errors clustered at the individual level.

Figure 8: Democratic Employees are Less Likely to Leave



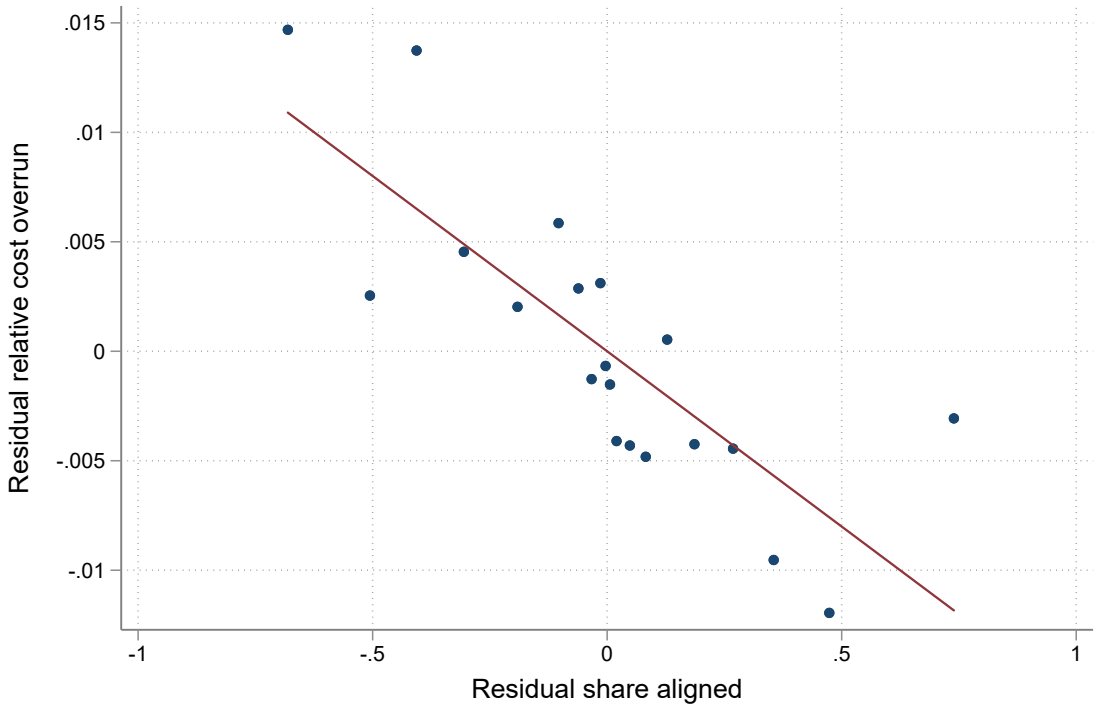
(a) Survival Probability Across Partisan Affiliations



(b) Democrats vs Republicans/independents Survival Probability

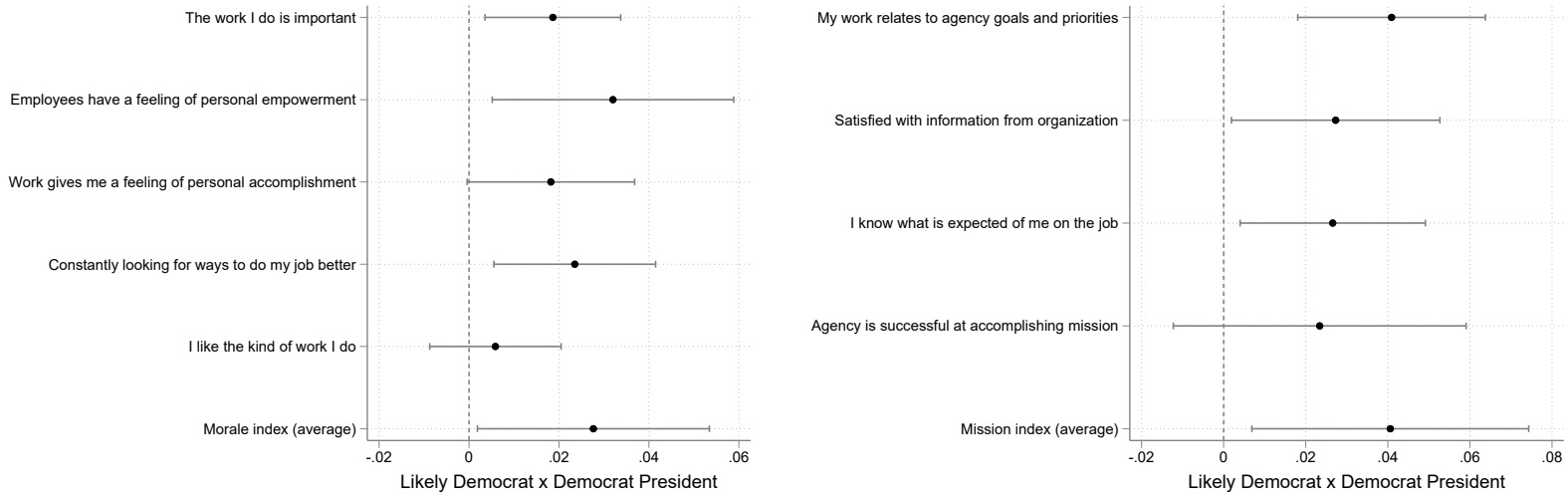
Notes: Panel (a) shows the share of civil servants who did not leave (i.e. survived) as a function of quarter from entry, broken down by party. Panel (b) shows the difference in the probability of survival between Democrats and Republicans/independents as a function of quarter from entry. The differential survival probability is expressed relative to the mean survival probability among Republicans and independents.

Figure 9: Greater political alignment decreases cost overrun



Notes: The figure shows the partial correlation between *share of political alignment* and *relative cost overrun* in a bin scatter plot. The relationship shown is after partialing out individual fixed effects and year × quarter fixed effects (see Table 6, column 1).

Figure 10: Morale and mission increase with political alignment



(a) Measures of general morale

(b) Measures of identification with mission

Notes: Each row reports the regression coefficient of *Likely Democrat* × *Democrat President* from equation Equation 4 for different dependent variables. All dependent variables are on the Likert scale (1: Strongly disagree, 5: Strongly agree) and standardized to have a mean 0 and SD 1. *Morale index* and *Mission index* are averages of all measures in their respective panel. The regression table is reported in Appendix Table C11. Reporting 95% confidence intervals, based on standard errors clustered at the Sex × Minority × Department-level.

Table 1: Average Differences in Observables Between Matched and Unmatched Bureaucrats

	(1)	(2)	(3)	(4)	(5)	(6)
	Matched		Unmatched		Matched - Unmatched	
	Mean	Std. dev.	Mean	Std. dev.	Difference	Standard error
Age less than 30	0.413	0.492	0.448	0.497	-0.035	0.001
Age 30-40	0.263	0.440	0.250	0.433	0.013	0.001
Age 40-50	0.176	0.381	0.161	0.368	0.015	0.000
Age 50-60	0.113	0.316	0.102	0.302	0.011	0.000
Age more than 60	0.035	0.184	0.038	0.192	-0.003	0.000
Highest education: college	0.237	0.425	0.219	0.413	0.019	0.001
Highest education: more than college	0.278	0.448	0.247	0.432	0.030	0.001
Quarters in federal bureaucracy	43.838	43.903	34.920	41.980	8.918	0.052
Annual pay in USD	41,216	34,994	38,812	33,214	2,404	41.480
Employed in DC	0.117	0.321	0.134	0.341	-0.018	0.000
Observations	1,263,181		1,546,726		2,809,907	

Notes: Descriptive statistics of individuals (mean and standard deviation) for which party affiliation is available (matched, columns 1-2) and for those for which party affiliation is unavailable (unmatched, columns 3-4). Column 5 reports the mean differences and column 6 the corresponding standard errors. Sample includes all civil servants with non-redacted names serving between 1997-2019.

Table 2: Political Cycles Among Political Appointees and Civil Servants

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Employee is Democrat		Employee is Republican		Hire is Democrat		Hire is Republican	
Panel A: Political Appointees								
President Democrat	0.497***	0.494***			0.550***	0.551***		
	(0.011)	(0.011)			(0.011)	(0.011)		
President Republican			0.459***	0.459***			0.508***	0.508***
			(0.011)	(0.011)			(0.011)	(0.011)
Observations	82,735	82,733	82,735	82,733	6,716	6,665	6,716	6,665
Effect size	+152%	+151%	+504%	+504%	+191%	+192%	+677%	+687%
Panel B: Civil Servants								
President Democrat	-0.001***	-0.002***			0.012***	0.005***		
	(0.000)	(0.000)			(0.001)	(0.001)		
President Republican			0.001***	0.000**			0.004***	0.000
			(0.000)	(0.000)			(0.001)	(0.001)
Observations	38,671,839	38,671,833	38,671,839	38,671,833	1,246,262	1,246,248	1,246,262	1,246,248
Effect size	-0.2%	-0.4%	+0.3%	+0.2%	+2.7%	+1.2%	+1.6%	+0.0%
Bureau FEs	No	Yes	No	Yes	No	Yes	No	Yes

Notes: Regression estimates of the party alignment effect. The unit of observation is the individual-quarter. The sample covers all matched individuals between 1997-2019. Panel A restricts the sample to political appointees (presidential appointments, non-career senior executive service, schedule C appointees). Panel B restricts the sample to civil servants (competitive service, career senior executive service, excepted service). All regressions include a linear time trend. In columns 1-2, the dependent variable is a dummy that is 1 if the civil servant is a Democrat. In columns 3-4, the dependent variable is a dummy that is 1 if the civil servant is a Republican. Columns 5-8 restrict the sample to new entrants. New entrants are defined as individuals we observe in that quarter in the OPM data, but not in the previous quarter. In columns 5-6, the dependent variable is a dummy that is 1 if the new entrant is a Democrat. In columns 7-8, the dependent variable is a dummy that is 1 if the new entrant is a Republican. *President Democrat* is a dummy that is 1 if the president is a Democrat, and 0 otherwise. *President Republican* is a dummy that is 1 if the president is a Republican, and 0 otherwise. Bureau FEs are fixed effects for departmental sub-units (agency/subelement). The effect size is defined as the estimated coefficient divided by the mean of the dependent variable when the president is Republican (columns 1, 2, 5, and 6) or Democrat (columns 3, 4, 7, and 8). The standard errors are clustered at the individual-level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 3: Political Alignment and Career Progression

	(1)	(2)	(3)	(4)	(5)	(6)
	Log total pay		Transferred away from DC			
Politically aligned	0.0006***	-0.0003**	0.0002	0.0001	-0.0005	-0.0006
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0007)	(0.0007)
Observations	37,795,051	37,794,485	3,791,990	3,790,618	93,437	89,536
Sample	All	All	Non-SES	Non-SES	SES	SES
Individual FEs	Yes	Yes	Yes	Yes	Yes	Yes
Year-Quarter FEs	Yes	No	Yes	No	Yes	No
Year-Quarter-Bureau FEs	No	Yes	No	Yes	No	Yes

Notes: Regression estimates of the party alignment effect on pay and transfers away from DC. The unit of observation is the individual-quarter. The sample covers all matched (non-political) civil servants between 1997-2019. In columns 3-4, the sample is restricted to civil servants who work in DC and are not members of the Senior Executive Service. In columns 5-6, the sample is restricted to Senior Executive Service civil servants who work in DC. In columns 1-2, the dependent variable is the log annual total pay. In columns 3-6, the dependent variable is a dummy that is 1 if the individual's work location changed from DC to outside DC. *Politically aligned* is a dummy that is 1 if the civil servant and president are from the same party. Bureau FEs are fixed effects for departmental sub-units (agency/subelement). The standard errors are clustered at the individual-level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 4: Democrats have higher education when they enter the bureaucracy

	(1)	(2)	(3)	(4)	(5)	(6)
	Has college degree			Has more than college degree		
Democrat	0.029***	0.005***	0.010***	0.044***	0.020***	0.020***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Republican	-0.037***	-0.028***	-0.029***	-0.039***	-0.027***	-0.027***
	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Observations	1,597,048	1,593,070	1,389,662	1,597,048	1,593,070	1,389,662
Mean dep. var. independents	0.544	0.544	0.536	0.280	0.280	0.270
Year-Quarter FEs	Yes	No	No	Yes	No	No
Year-Quarter-Bureau FEs	No	Yes	Yes	No	Yes	Yes
Year-Quarter-Pay FEs	No	No	Yes	No	No	Yes

Notes: The unit of observation is the individual-quarter. Sample is restricted to entrants of the civil service between 1997-2019. New entrants are defined as individuals we observe in that quarter in the OPM data, but not in the previous quarter. In columns 1-3, the dependent variable is a dummy that is 1 if the entrant has a college degree (bachelor's or 4-years college degree). In columns 4-6, the dependent variable is a dummy that is 1 if the entrant has more than a college degree (graduate-level degree). *Democrat* is a dummy that is 1 if the individual is a Democrat and 0 otherwise. *Republican* is a dummy that is 1 if the individual is a Republican and 0 otherwise. The omitted category are independents. Bureau FEs are fixed effects for departmental sub-units (agency/subelement). "Mean dep. var. independents" is the mean of the dependent variable among independents. The standard errors are clustered at the individual-level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 5: Democrats are more likely to be promoted to higher steps of the hierarchy

	(1)	(2)	(3)	(4)	(5)	(6)
	Promotion from top GS to SES			Promotion from GS to top GS		
Democrat	0.007***	0.004**	0.003*	0.064***	-0.011**	-0.001
	(0.002)	(0.002)	(0.002)	(0.005)	(0.005)	(0.005)
Republican	-0.003	-0.005**	-0.003	-0.104***	-0.063***	-0.029***
	(0.002)	(0.002)	(0.002)	(0.005)	(0.005)	(0.006)
Observations	8,004,963	8,003,767	7,960,755	19,525,090	19,523,408	18,909,511
Mean dep. var. independents	0.0406	0.0406	0.0408	0.6305	0.6304	0.6511
Year-Quarter FEs	Yes	No	No	Yes	No	No
Year-Quarter-Bureau FEs	No	Yes	Yes	No	Yes	Yes
Education FEs	No	No	Yes	No	No	Yes

Notes: The unit of observation is the individual-quarter. Sample is restricted to individuals serving in the general schedule, grades 13-15 (columns 1-3) and grades 1-12 (columns 4-6) between 1997-2019. The dependent variable is a dummy that is 1 if the individual was promoted to career SES (columns 1-3) or to grades 13-15 of the GS (columns 4-6). *Democrat* is a dummy that is 1 if the individual is a Democrat and 0 otherwise. *Republican* is a dummy that is 1 if the individual is a Republican and 0 otherwise. For ease of interpretation, all estimates are multiplied by 1000. Bureau FEs are fixed effects for departmental sub-units (agency/subelement). "Mean dep. var. independents" is the mean of the dependent variable among independents. The standard errors are clustered at the individual-level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 6: Political alignment reduces cost overrun

	(1)	(2)	(3)	(4)	(5)
	Relative cost overrun				
Mean of dep. var	0.127	0.127	0.127	0.127	0.127
Politically aligned	-0.010**	-0.011**	-0.010**		
	(0.005)	(0.004)	(0.004)		
Share politically aligned				-0.019***	-0.016***
				(0.005)	(0.005)
Year × Month FEs	Yes	Yes	Yes	Yes	Yes
Individual FEs	Yes	Yes	Yes	Yes	Yes
Controls		Yes	Yes		Yes
Department × Year FEs			Yes		Yes
Observations	718,362	718,362	718,182	718,362	718,182

Notes: The unit of observation is the contract. *Relative cost overrun* is the difference between the actual costs and the expected costs, normalized by the expected costs (see Equation 3). *Politically aligned* is a dummy that is 1 if the procurement officer and president are from the same party when the contract was created, and 0 otherwise. *Share politically aligned* is the share of a given contract's duration in which the procurement officer and the president were from the same party. Controls comprise: *Log(Contract size in USD)*, *Log(expected duration in days)*, *Log(total contracts created in a given year and quarter)*, *industry (NAICS)* fixed effects (1322), *award type* FEs (4), *contract pricing* FEs (18), *product service code* FEs (1636). Standard errors are clustered at the procurement officer-level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 7: Political alignment does not impact other outcomes

	(1) Terminated	(2) Delay	(3) Modifications	(4) Competed	(5) Offers
Mean of dep. var	0.00638	0.387	1.236	0.246	3.468
Panel A: Political alignment at time of award					
Politically aligned	0.000	-0.000	-0.004	-0.005	0.625
	(0.001)	(0.008)	(0.033)	(0.005)	(0.580)
Observations	718,182	718,182	718,182	718,182	718,182
Panel B: Share of contract duration politically aligned					
Share politically aligned	0.000	-0.004	-0.049	-0.009*	0.692
	(0.001)	(0.009)	(0.032)	(0.005)	(0.641)
Observations	718,182	718,182	718,182	718,182	718,182
Year × Month FEs	Yes	Yes	Yes	Yes	Yes
Individual FEs	Yes	Yes	Yes	Yes	Yes
Sample	All	All	All	All	All
Controls	Yes	Yes	Yes	Yes	Yes
Department × Year FEs	Yes	Yes	Yes	Yes	Yes

Notes: The unit of observation is the contract. *Terminated* is a dummy that is 1 if the contract was terminated. *Delay* is the difference between the actual contract duration and the expected duration, normalized by the expected duration (see Equation 3). *Modifications* is the number of post-award modifications to the contract. *Competed* is a dummy that is 1 if the contract was awarded by full and open competition. *Offers* is the number of bids for the contract. *Politically aligned* is a dummy that is 1 if the procurement officer and president are from the same party in the year the contract was created, and 0 otherwise. *Share politically aligned* is the share of a given contract's duration in which the procurement officer and the president were from the same party. Controls comprise: *Log(Contract size in USD)*, *Log(expected duration in days)*, *Log(total contracts created in a given year and quarter)*, *industry (NAICS)* fixed effects (1322), *award type* FEs (4), *contract pricing* FEs (18), *product service code* FEs (1636). Standard errors are clustered at the procurement officer-level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 8: Promotion incentives do not change with political alignment

	(1)	(2)	(3)	(4)
	Promoted	Demoted	Exit	Log Pay
Mean of dep. var	0.145	1.798	1.112	11.21
Current political alignment	-0.069*	-0.121	-0.040	-0.004
	(0.035)	(0.158)	(0.124)	(0.002)
Average relative overruns	0.126	-1.266	-0.836	0.059***
	(0.228)	(1.096)	(0.744)	(0.020)
Average relative delays	-0.003	0.436***	-0.033***	-0.000
	(0.003)	(0.094)	(0.011)	(0.001)
Current political alignment × Avg. relative overruns	0.000	-0.050*	-0.015*	-0.001***
	(0.002)	(0.028)	(0.008)	(0.000)
Current political alignment × Avg. relative delays	0.012	0.032	-0.006	-0.001
	(0.028)	(0.138)	(0.229)	(0.003)
Year × Month FEs	Y	Y	Y	Y
Department × Year FEs	Y	Y	Y	Y
Individual FEs	Y	Y	Y	Y
Party × Avg. cost overrun & delay	Y	Y	Y	Y
Observations	65,000	65,000	65,000	64,884

Notes: The unit of observation is the individual × year × quarter. *Promoted* is a dummy that is 1 if the officer saw an increase in the pay grade. *Demoted* is a dummy that is 1 if the officer experienced a decrease in the pay grade. *Exit* is a dummy that is 1 if the officer left the civil service in the given quarter. *Promoted*, *Demoted* and *Exit* are scaled by 100 to ease the legibility of the resulting coefficient estimates. *Log Pay* is the (log) annual earnings of the civil servant. *Current political alignment* is a dummy that is 1 if the procurement officer and president are from the same party in the current year and quarter. *Average relative overruns (delays)* are the average relative cost overruns (delays) for contracts that were completed in the given quarter. Both average contract performance measures are standardized to have a mean 0 and SD 1. *Party × Avg. cost overrun & delay* comprise the average relative overrun and delay measures interacted with the Democrat and Republican dummies. Standard errors clustered at the individual-level. *** p <0.01, ** p <0.05, * p <0.1

ONLINE APPENDIX

A Appendix Tables: OPM

Table A1: Political Cycles Among Political Appointees

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Employee is Democrat		Employee is Republican		Hire is Democrat		Hire is Republican	
Panel A: Presidential Appointments								
President Democrat	0.278***	0.258***			0.457***	0.483***		
	(0.021)	(0.020)			(0.027)	(0.030)		
President Republican			0.267***	0.246***			0.452***	0.459***
			(0.020)	(0.019)			(0.026)	(0.029)
Observations	19,484	19,483	19,484	19,483	1,160	1,097	1,160	1,097
Effect size	+63%	+58%	+155%	+143%	+137%	+141%	+395%	+408%
Panel B: Senior Executive Noncareer								
President Democrat	0.568***	0.570***			0.544***	0.561***		
	(0.020)	(0.020)			(0.019)	(0.019)		
President Republican			0.531***	0.541***			0.508***	0.525***
			(0.020)	(0.020)			(0.019)	(0.019)
Observations	22,499	22,494	22,499	22,494	2,259	2,206	2,259	2,206
Effect size	+186%	+186%	+889%	+906%	+175%	+182%	+672%	+736%
Panel C: Schedule C Appointees								
President Democrat	0.565***	0.559***			0.594***	0.587***		
	(0.015)	(0.015)			(0.014)	(0.014)		
President Republican			0.516***	0.510***			0.542***	0.535***
			(0.016)	(0.015)			(0.014)	(0.014)
Observations	40,788	40,786	40,788	40,786	4,039	3,991	4,039	3,991
Effect size	+203%	+201%	+714%	+706%	+230%	+227%	+901%	+898%
Bureau FEs	No	Yes	No	Yes	No	Yes	No	Yes

Notes: Regression estimates of the party alignment effect. The unit of observation is the individual-quarter. The sample covers all political appointments between 1997-2019. Panel A restricts the sample to presidential appointments. Panel B restricts the sample to non-career senior executive service officers. Panel C restricts the sample to all Schedule C appointees. All regressions include a linear time trend. In columns 1-2, the dependent variable is a dummy that is 1 if the civil servant is a Democrat. In columns 3-4, the dependent variable is a dummy that is 1 if the civil servant is a Republican. Columns 5-8 restrict the sample to new civil service entrants. New entrants are defined as individuals we observe in that quarter in the OPM data, but not in the previous quarter. In columns 5-6, the dependent variable is a dummy that is 1 if the new entrant is a Democrat. In columns 7-8, the dependent variable is a dummy that is 1 if the new entrant is a Republican. *President Democrat* is a dummy that is 1 if the president is a Democrat, and 0 otherwise. *President Republican* is a dummy that is 1 if the president is a Republican, and 0 otherwise. Bureau FEs are fixed effects for departmental sub-units (agency/subelement). The effect size is defined as the estimated coefficient divided by the mean of the dependent variable when the president is Republican (columns 1, 2, 5, and 6) or Democrat (columns 3, 4, 7, and 8). The standard errors are clustered at the individual-level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A2: Political Cycles Among Civil Servants

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Employee is Democrat		Employee is Republican		Hire is Democrat		Hire is Republican	
Panel A: Competitive Career Service								
President Democrat	-0.002***	-0.003***			0.010***	0.003**		
	(0.000)	(0.000)			(0.001)	(0.001)		
President Republican			0.000	-0.001**			0.000	-0.001
			(0.000)	(0.000)			(0.001)	(0.001)
Observations	24,800,987	24,800,985	24,800,987	24,800,985	678,223	678,216	678,223	678,216
Effect size	-0.4%	-0.7%	+0.0%	-0.2%	+2.2%	+0.7%	+0.1%	-0.5%
Panel B: Senior Executive Career								
President Democrat	-0.001	-0.003			0.050***	0.037***		
	(0.005)	(0.004)			(0.014)	(0.014)		
President Republican			0.001	-0.001			0.039***	0.024**
			(0.004)	(0.004)			(0.012)	(0.012)
Observations	186,118	186,116	186,118	186,116	5,754	5,718	5,754	5,718
Effect size	-0.2%	-0.5%	+0.6%	-0.4%	+8.6%	+6.4%	+18.5%	+11.6%
Panel C: Excepted Service - Nonpolitical								
President Democrat	0.001***	0.002***			0.014***	0.009***		
	(0.001)	(0.001)			(0.001)	(0.001)		
President Republican			0.002***	0.003***			0.009***	0.005***
			(0.000)	(0.000)			(0.001)	(0.001)
Observations	13,705,391	13,705,382	13,705,391	13,705,382	743,673	743,651	743,673	743,651
Effect size	+0.3%	+0.4%	+0.8%	+1.1%	+3.1%	+2.0%	+3.7%	+2.0%
Bureau FEs	No	Yes	No	Yes	No	Yes	No	Yes

Notes: Regression estimates of the party alignment effect. The unit of observation is the individual-quarter. The sample covers all (non-political) civil servants between 1997-2019. Panel A restricts the sample to the competitive career service. Panel B restricts the sample to career senior executive service officers. Panel C restricts the sample to all employees in the non-political excepted service. All regressions include a linear time trend. In columns 1-2, the dependent variable is a dummy that is 1 if the civil servant is a Democrat. In columns 3-4, the dependent variable is a dummy that is 1 if the civil servant is a Republican. Columns 5-8 restrict the sample to new civil service entrants. New entrants are defined as individuals we observe in that quarter in the OPM data, but not in the previous quarter. In columns 5-6, the dependent variable is a dummy that is 1 if the new entrant is a Democrat. In columns 7-8, the dependent variable is a dummy that is 1 if the new entrant is a Republican. *President Democrat* is a dummy that is 1 if the president is a Democrat, and 0 otherwise. *President Republican* is a dummy that is 1 if the president is a Republican, and 0 otherwise. Bureau FEs are fixed effects for departmental sub-units (agency/subelement). The effect size is defined as the estimated coefficient divided by the mean of the dependent variable when the president is Republican (columns 1, 2, 5, and 6) or Democrat (columns 3, 4, 7, and 8). The standard errors are clustered at the individual-level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A3: Democrats are relatively more likely to enter at higher levels of the hierarchy

	(1)	(2)	(3)	(4)	(5)	(6)
	Is a Democrat					
Hires as SES	0.107***	0.038***	0.003	0.062***	0.002	-0.039***
	(0.013)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)
Hires as top GS	0.083***	0.014***	-0.009***	0.059***	-0.005**	-0.035***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Observations	872,500	868,981	726,582	635,655	632,069	533,666
Effect size SES	23%	8%	1%	10%	0%	6%
Effect size top GS	18%	3%	-2%	9%	-1%	-5%
Year-Quarter FEs	Yes	No	No	Yes	No	No
Year-Quarter-Bureau FEs	No	Yes	Yes	No	Yes	Yes
Education FEs	No	No	Yes	No	No	Yes
Sample	Including Independents			Only Democrats and Republicans		

Notes: Sample is restricted to civil service entrants between 1997-2019. New entrants are defined as individuals we observe in that quarter in the OPM data, but not in the previous quarter. The dependent variable is a dummy that is 1 if the individual is a Democrat. *Hired as SES* is a dummy that is 1 if the individual was hired as a senior executive service officer and 0 otherwise. *Hired as top GS* is a dummy that is 1 if the individual was hired at a top general schedule level (grade 13 or above). The omitted category are all other general schedule positions. In columns 4-6, the sample excludes Independents.

B Appendix Tables: Procurement

Table B4: Sample restrictions for procurement contracts

Sample	Contracts left
Sample restrictions	
All service & works contracts (excluding R&D) 2004-2019	7,755,085
Drop Department of Defense	5,015,529
Drop Indefinite Vehicle Contracts (IDV) [3]	4,757,985
Drop lease and rental contracts [1]	3,939,099
Drop contracts performed outside the US [1] [2]	3,709,519
Drop already initialized contracts [3]	3,646,840
Matching	
Drop contracts with anonymous creator	2,845,525
Drop those unmatched to OPM (personnel data)	1,650,297
Drop those unmatched to L2 (voter registration data)	784,282
Drop missing/inconsistent data [1][2][3]	718,362

Notes: Table documents the sample restrictions moving from the full sample to the final analysis sample, reporting the number of remaining contracts after each stage. Sample restrictions follow the standard procurement literature. [1] denotes restrictions from Decarolis et al. (2020b), [2] are restrictions from Kang and Miller (2020), and [3] are restrictions from Carril et al. (2021).

Table B5: Descriptive statistics of matched vs. unmatched contracts

	(1)	(2)	(3)	(4)	(5)
			Mean difference matched vs unmatched sample		
	Mean	SD	No L2 match	No OPM match	No email
Expected contract size	9.716	2.137	-0.014	-0.120**	-2.172***
			(0.067)	(0.046)	(0.773)
Expected duration	4.710	1.476	-0.007	-0.135***	-1.001***
			(0.053)	(0.038)	(0.418)
Construction	0.210	0.407	-0.001	-0.030***	0.157
			(0.009)	(0.007)	(0.115)
Year created	2012.48	4.062	-0.229	-0.648***	-3.304***
			(0.158)	(0.122)	(1.266)
Observations	718,362		1,650,297	2,845,525	3,646,840

Notes: Reporting descriptive statistics (mean, standard deviation) for contract characteristics of the final sample (columns 1-2). Columns 3-5 show the difference in means between the final sample and different unmatched samples (see Table B4). In column 3, the comparison is between the final sample and the sample for which party affiliation was missing. In column 4, the comparison is between the matched OPM sample and the sample for which officers could not be linked to the OPM personnel records. In column 5, the comparison is between the sample with email identifiers and the sample for which email identifiers were unavailable.

Table B6: Balance of contract characteristics by political alignment

	(1)	(2)	(3)
	No. contracts	Exp. contract size	Exp. duration
Mean of dep. var	4.899	9.716	4.710
Politically aligned	0.164	0.013	-0.024
	(0.195)	(0.027)	(0.022)
Year × Quarter FEs	Y	Y	Y
Individual FEs	Y	Y	Y
Observations	335,422	774,111	735,881

Notes: Unit of observation in column 1 is the balanced individual-quarter level. Unit of observation in columns 2-3 is the contract-level. *Politically aligned* is a dummy that is 1 if the procurement officer and president are from the same party. *No. contracts* is the number of contracts a procurement officer created in a given quarter. *Exp. contract size* is the (log) expected size (in USD) of the contract at time of award. *Exp. duration* is the (log) expected contract length (in days) at time of award. Standard errors clustered at the individual-level. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table B7: Alternative measure of procurement performance

	(1)	(2)	(3)	(4)	(5)
	Cost performance (Decarolis et al. 2020)				
Mean of dep. var	0.918	0.918	0.918	0.918	0.918
Politically aligned	0.005**	0.005***	0.005**		
	(0.002)	(0.002)	(0.002)		
Share politically aligned				0.008***	0.007***
				(0.002)	(0.002)
Year x Quarter FEs	Yes	Yes	Yes	Yes	Yes
Individual FEs	Yes	Yes	Yes	Yes	Yes
Controls		Yes	Yes	Yes	Yes
Department x Year FEs			Yes	Yes	Yes
Observations	702,080	702,080	701,908	702,080	701,908

Notes: Controls comprise: Log(Contract size), Log expected duration, Log total contracts created, NAICs FEs, Product service code FEs and the log initial contract size (expected cost) and expected duration. *Politically aligned* is a dummy that is 1 if the procurement officer and president are from the same party in the year the contract was created, and 0 otherwise. *Share politically aligned* is the share of a given contract's duration in which the procurement officer and the president were from the same party. Sample includes independents. Standard errors clustered at the individual-level. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table B8: Broken down by subsamples

	(1)	(2)	(3)	(4)
		Relative cost overrun		
Mean of dep. var	0.127	0.0737	0.203	0.120
Panel A: Political alignment at time of award				
Politically aligned	-0.010**	0.002	-0.022***	-0.013***
	(0.004)	(0.004)	(0.006)	(0.005)
Observations	718,182	420,539	296,516	673,752
Panel B: Share of contract duration politically aligned				
Share politically aligned	-0.016***	-0.003	-0.028***	-
	(0.005)	(0.004)	(0.006)	
Observations	718,182	420,539	296,516	
Year x Month FEs	Yes	Yes	Yes	Yes
Individual FEs	Yes	Yes	Yes	Yes
Sample	All	<$25k	≥25k	No overlap
Controls	Yes	Yes	Yes	Yes
Bureau x Year FEs	Yes	Yes	Yes	Yes

Notes: No overlap is the sample of contracts where the duration does not span two presidents. Controls comprise: Log(Contract size), Log expected duration, Log total contracts created, NAICs FEs, Product service code FEs and the log initial contract size (expected cost) and expected duration. *Politically aligned* is a dummy that is 1 if the procurement officer and president are from the same party in the year the contract was created, and 0 otherwise. *Share politically aligned* is the share of a given contract's duration in which the procurement officer and the president were from the same party. Sample includes independents. Standard errors clustered at the individual-level. *** p <0.01, ** p <0.05, * p <0.1

Table B9: Alternative thresholds for Winsorizing

	(1)	(2)	(3)	(4)	(5)
	Relative cost overrun				
Mean of dep. var	0.277	0.242	0.187	0.127	0.0966
Panel A: Political alignment at time of award					
Politically aligned	-0.017	-0.018*	-0.016**	-0.010**	-0.007**
	(0.012)	(0.010)	(0.008)	(0.004)	(0.003)
Observations	718,182	718,182	718,182	718,182	718,182
Panel B: Share of contract duration politically aligned					
Share politically aligned	-0.039***	-0.035***	-0.028***	-0.016***	-0.011***
	(0.012)	(0.010)	(0.008)	(0.005)	(0.003)
Observations	718,182	718,182	718,182	718,182	718,182
Winsorizing fraction in each tail	0.005	0.01	0.025	0.05	0.075
Year x Month FEs	Yes	Yes	Yes	Yes	Yes
Individual FEs	Yes	Yes	Yes	Yes	Yes
Sample	All	All	All	All	All
Controls	Yes	Yes	Yes	Yes	Yes
Bureau x Year FEs	Yes	Yes	Yes	Yes	Yes

Notes: Controls comprise: Log(Contract size), Log expected duration, Log total contracts created, NAICs FEs, Product service code FEs and the log initial contract size (expected cost) and expected duration. *Politically aligned* is a dummy that is 1 if the procurement officer and president are from the same party in the year the contract was created, and 0 otherwise. *Share politically aligned* is the share of a given contract's duration in which the procurement officer and the president were from the same party. Sample includes independents. Standard errors clustered at the individual-level. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table B10: Alignment effects by presidential transition

	(1)	(2)	(3)
		Relative cost overrun	
Mean of dep. var	0.127	0.127	0.134
Panel A: Political alignment at time of award			
Politically aligned	-0.010**	-0.010**	-0.015**
	(0.004)	(0.005)	(0.006)
Observations	718,182	618,737	589,183
Panel B: Share of contract duration politically aligned			
Share politically aligned	-0.016***	-0.017***	-0.025***
	(0.005)	(0.005)	(0.006)
Observations	718,182	618,737	589,183
Year x Month FEs	Yes	Yes	Yes
Individual FEs	Yes	Yes	Yes
Sample	Full sample	2001-2017	2009-2019
		Bush-Obama	Obama-Trump
Controls	Yes	Yes	Yes
Department x Year FEs	Yes	Yes	Yes

Notes: Controls comprise: Log(Contract size), Log expected duration, Log total contracts created, NAICs FEs, Product service code FEs and the log initial contract size (expected cost) and expected duration. *Politically aligned* is a dummy that is 1 if the procurement officer and president are from the same party in the year the contract was created, and 0 otherwise. *Share politically aligned* is the share of a given contract's duration in which the procurement officer and the president were from the same party. Sample includes independents. Standard errors clustered at the individual-level. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

C Appendix Tables: FEVS

Table C11: Morale and mission increase with political alignment

	(1)	(2)	(3)
	Likely Dem × Dem pres		
	Coeff.	Std. err.	Obs.
Panel A: General morale			
The work I do is important	0.019**	(0.008)	4,075,397
Employees have a feeling of personal empowerment	0.032**	(0.014)	4,025,301
Work gives feeling of personal accomplishment	0.019	(0.011)	4,107,374
Willing to put in the extra effort to get a job done	0.018*	(0.009)	3,959,941
Constantly looking for ways to do my job better	0.024**	(0.009)	3,964,771
I like the kind of work I do	0.006	(0.007)	4,088,489
Morale index	0.027**	(0.013)	3,749,545
Panel B: Identification with mission			
My work relates to the agency's goals and priorities	0.041***	(0.012)	4,091,384
Satisfied with information from organization	0.027**	(0.013)	4,112,801
I know what is expected of me on the job	0.027**	(0.011)	3,947,595
Agency is successful at accomplishing its mission	0.023	(0.018)	3,895,005
Mission index	0.040**	(0.017)	3,819,245
Year FEs	Y		
Sex × Minority × Bureau FEs	Y		

Notes: Each row reports the regression coefficient of *Likely Democrat* × *Democrat President* from Equation 4 for different dependent variables. All dependent variables are on the Likert scale (1: Strongly disagree, 5: Strongly agree) and standardized to have a mean 0 and SD 1. Column 1 reports the estimated interaction effect of *Likely Democrat* × *Democrat President*. Column 2 reports the associated standard error and Column 3 reports the total number of observations corresponding to the regression. *Morale index* and *Mission index* are averages of all measures in their respective panel. Standard errors are clustered at the Sex × Minority × Department-level. *** p <0.01, ** p <0.05, * p <0.1

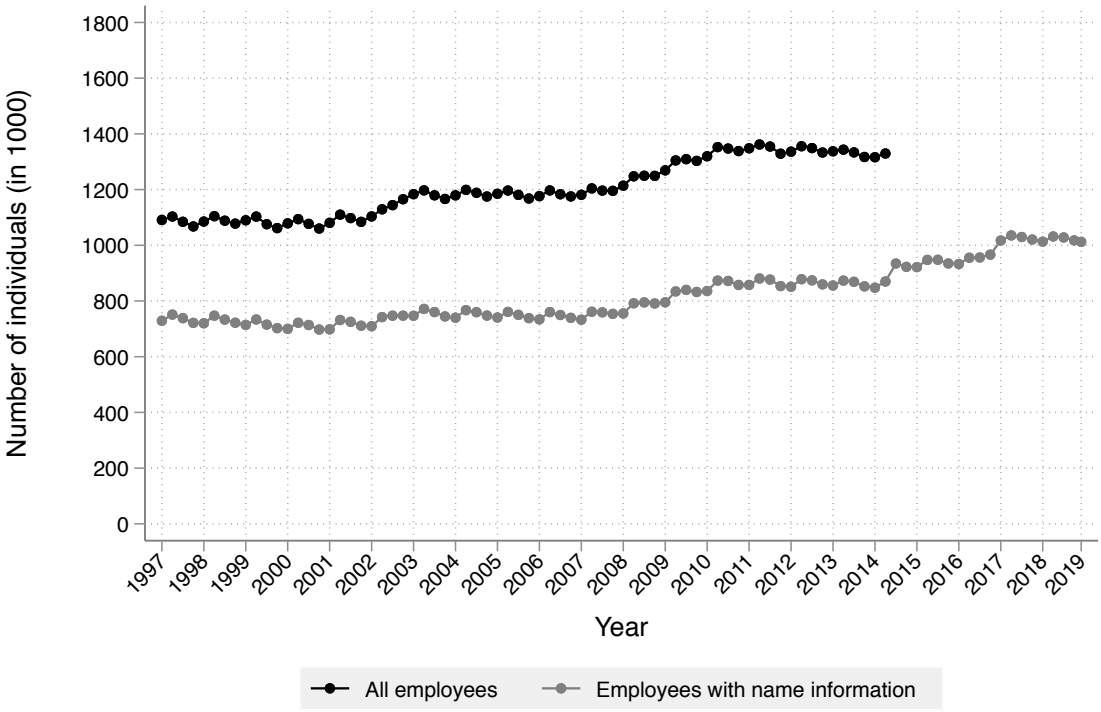
Table C12: Morale and mission and continous measure of Democrat leaning

	(1)	(2)	(3)
	Δ Pr(Dem) × Dem pres		
	Coeff.	Std. err.	Obs.
Panel A: General morale			
The work I do is important	0.039***	(0.014)	4,075,397
Employees have a feeling of personal empowerment	0.060**	(0.028)	4,025,301
Work gives feeling of personal accomplishment	0.036	(0.024)	4,107,374
Willing to put in the extra effort to get a job done	0.035**	(0.017)	3,959,941
Constantly looking for ways to do my job better	0.047***	(0.016)	3,964,771
I like the kind of work I do	0.008	(0.013)	4,088,489
Morale index	0.051**	(0.032)	3,819,245
Panel B: Identification with mission			
My work relates to the agency's goals and priorities	0.080***	(0.023)	4,091,384
Satisfied with information from organization	0.045*	(0.027)	4,112,801
I know what is expected of me on the job	0.053**	(0.021)	3,947,595
Agency is successful at accomplishing its mission	0.049	(0.036)	3,895,005
Mission index	0.079**	(0.032)	3,819,245
Year FEs	Y		
Sex × Minority × Bureau FEs	Y		

Notes: Each row reports the regression coefficient of *Likely Democrat* × *Democrat President* from Equation 4 for different dependent variables. All dependent variables are on the Likert scale (1: Strongly disagree, 5: Strongly agree) and standardized to have a mean 0 and SD 1. Column 1 reports the estimated interaction effect of $\Delta Pr(Dem)$ × *Democrat President*. Column 2 reports the associated standard error and Column 3 reports the total number of observations corresponding to the regression. *Morale index* and *Mission index* are averages of all measures in their respective panel. Standard errors are clustered at the Sex × Minority × Department-level. *** p <0.01, ** p <0.05, * p <0.1

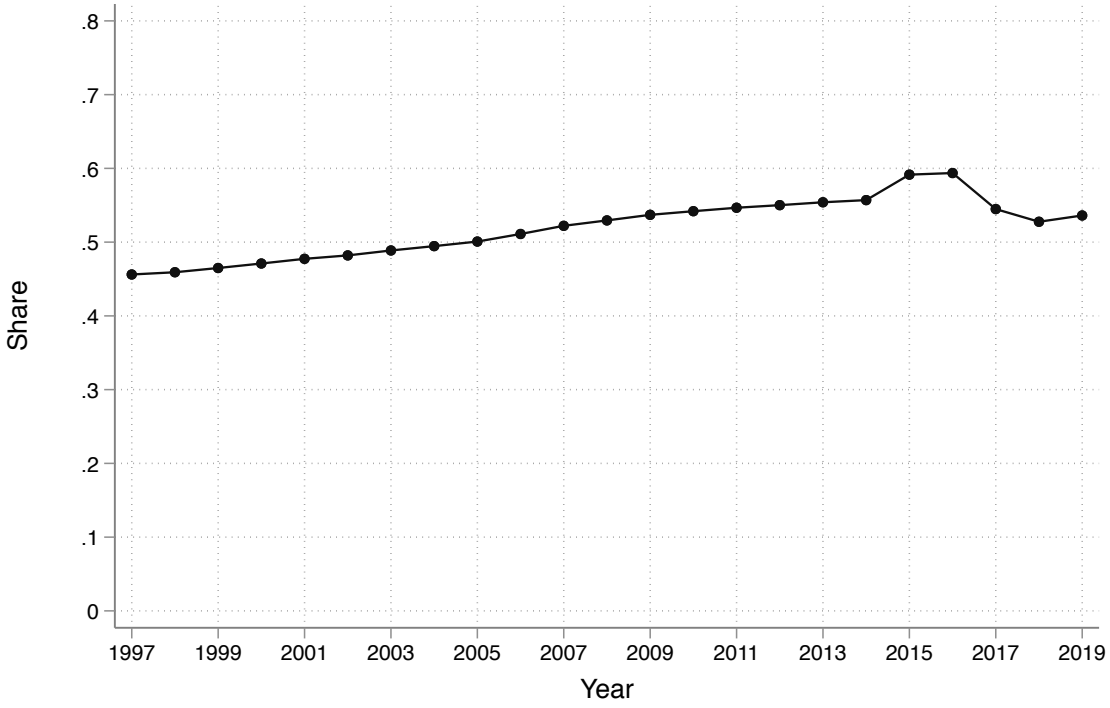
D Appendix Figures: OPM

Figure D1: Number of employees in the OPM over time



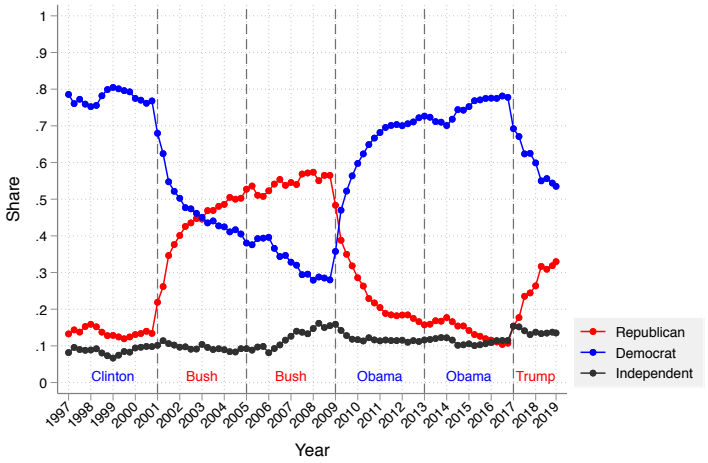
Notes: Showing the number of OPM individuals over time (in 1,000). Black line denotes all employees and the gray line denotes employees for whom names were not redacted. Note that since the OPM does not provide unique identifiers after 2014, we cannot compute the number of unique employees among those with redacted names.

Figure D2: Share of Federal Employees Matched to Partisan Affiliation Data

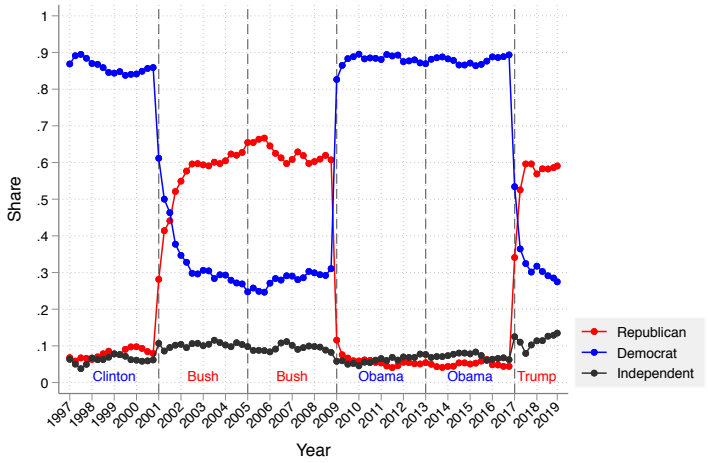


Notes: Share of OPM individuals with non-redacted names who could be matched to the L2 voter registration data over time.

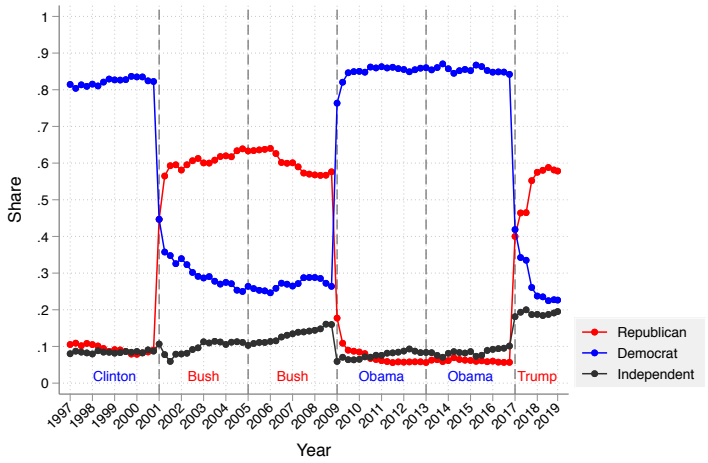
Figure D3: Partisan Affiliation of Political Appointees – By Type



(a) Presidential Appointments



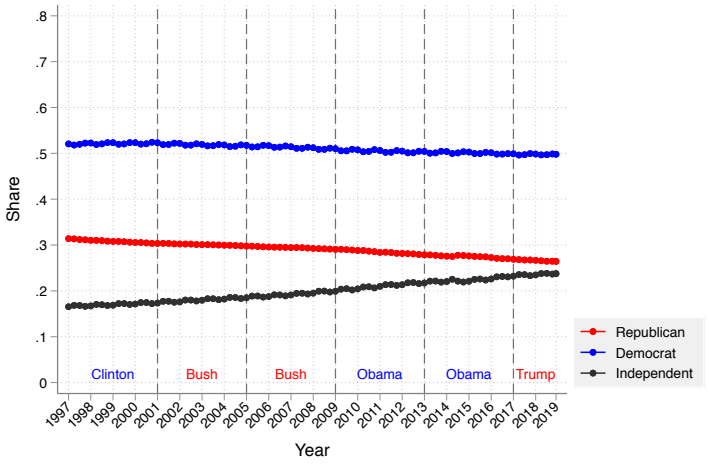
(b) Senior Executive Service - Noncareer



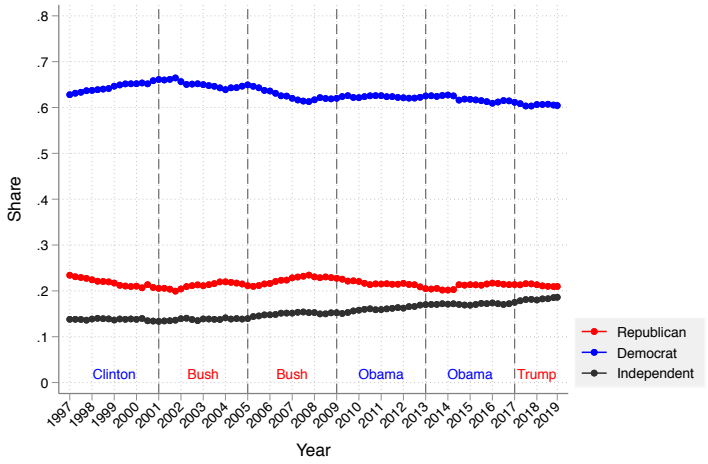
(c) Schedule C

Notes: Party shares for different types of political appointments over time. Panel A shows presidential appointments. Panel B shows non-career senior executive service. Panel C shows Schedule C appointments. Dashed vertical lines mark presidential terms.

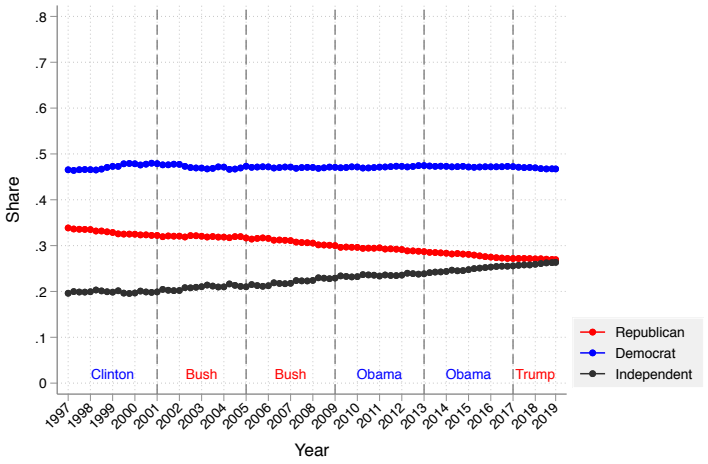
Figure D4: Partisan Affiliation of Civil Servants – By Type



(a) Competitive Career Service



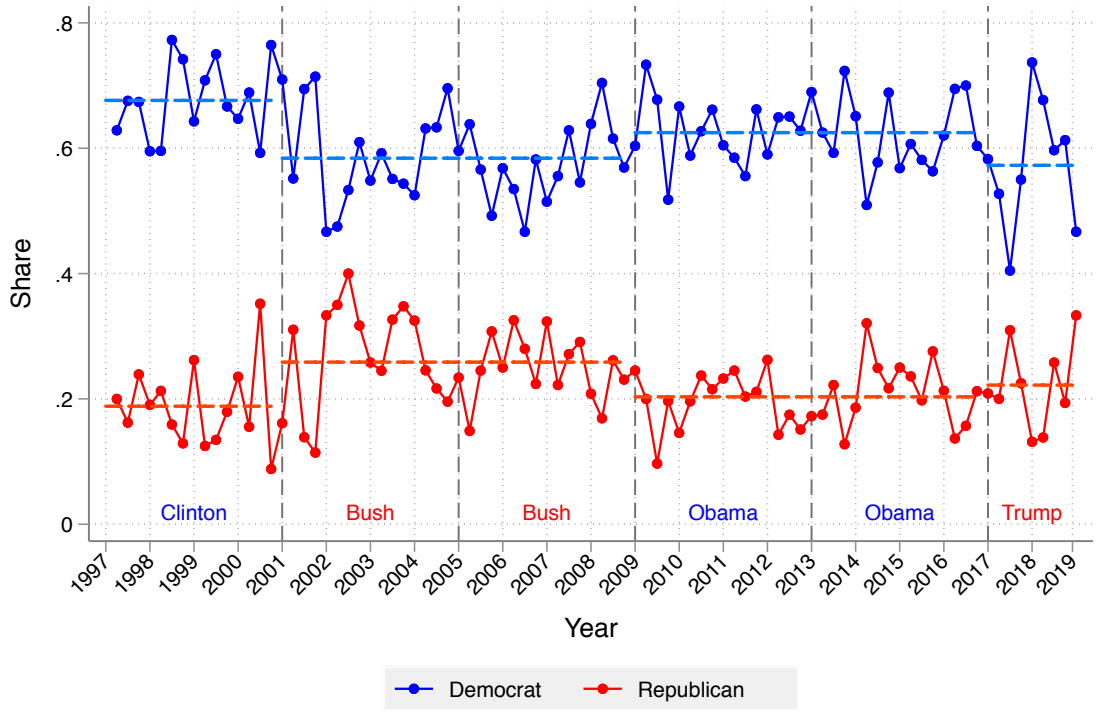
(b) Senior Executive Service - Career



(c) Excepted Service - Nonpolitical

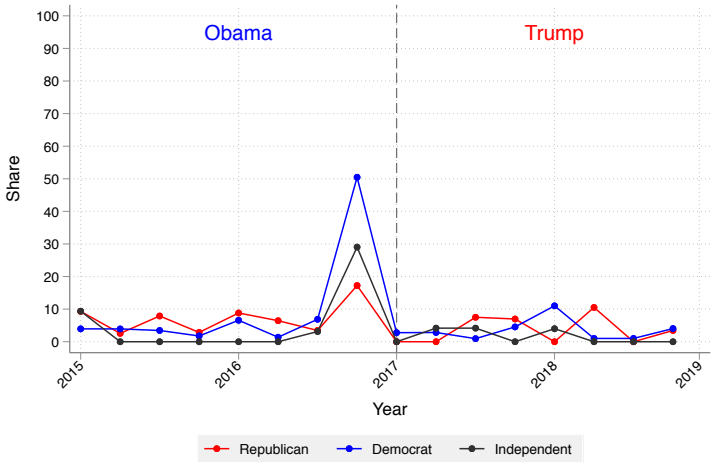
Notes: Party shares for different types of (non-political) civil servants over time. Panel A shows the competitive career service. Panel B shows the career senior executive service. Panel C shows the non-political excepted service. Dashed vertical lines mark presidential terms.

Figure D5: Hiring in the Career Senior Executive Service By Partisan Affiliation

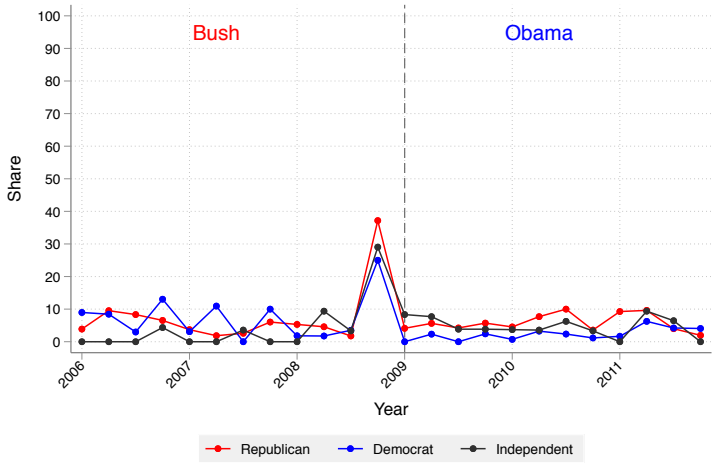


Notes: Share of new entrants by party affiliation over time for the career senior executive service. New entrants are defined by the first quarter they are observed in the OPM data. Vertical dashed lines mark presidential terms.

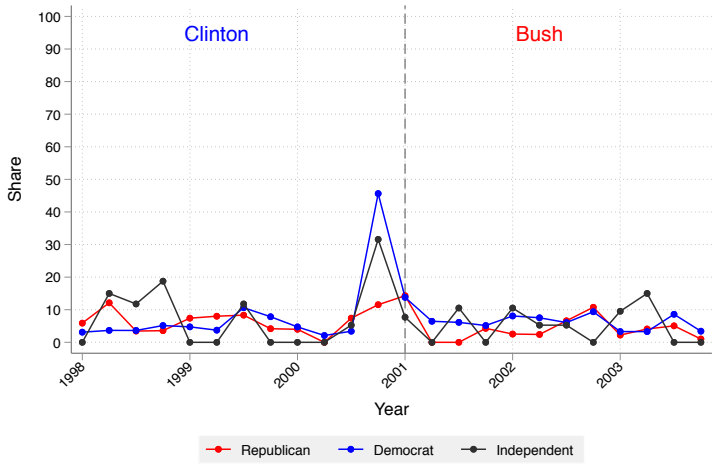
Figure D6: Share of Presidential Appointees Leaving Around Presidential Transitions



(a) Obama-Trump Transition



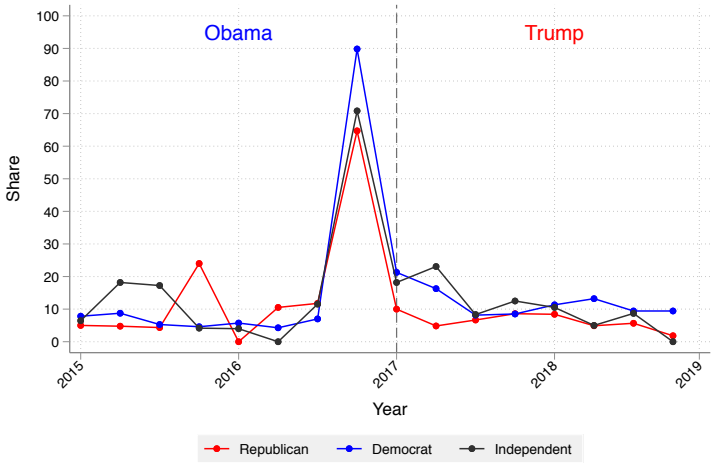
(b) Bush-Obama Transition



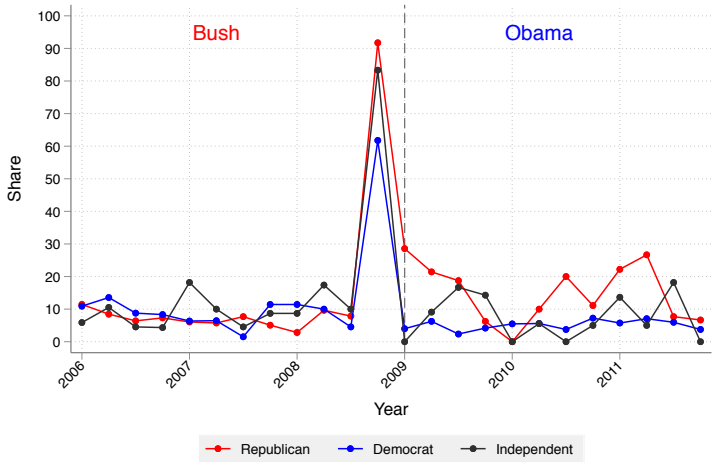
(c) Clinton-Bush Transition

Notes: Share of exits among presidential appointees around presidential transitions. Exit at t takes place if an individual is present in quarter t and not in $t+1$. Dashed vertical line marks the first quarter in the year of the transition.

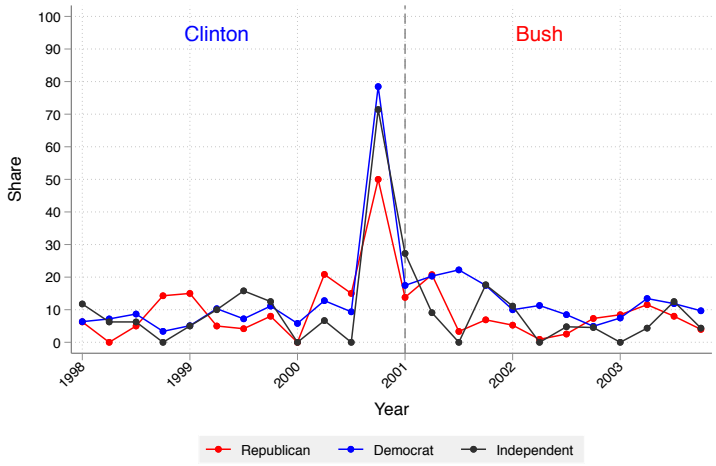
Figure D7: Share of Senior Executive Service Noncareer Leaving Around Presidential Transitions



(a) Obama-Trump Transition



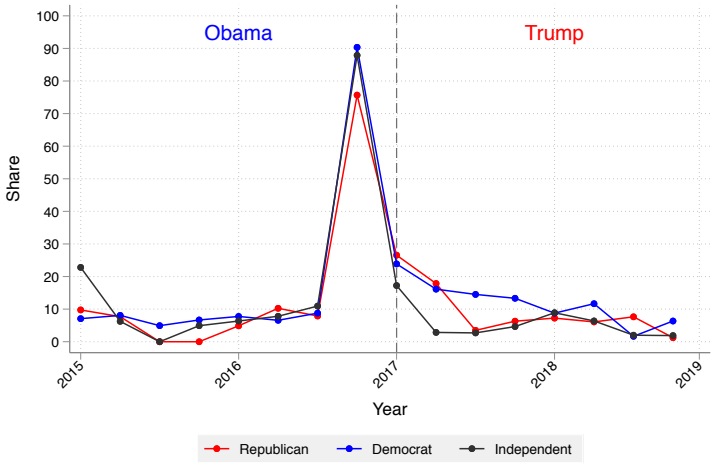
(b) Bush-Obama Transition



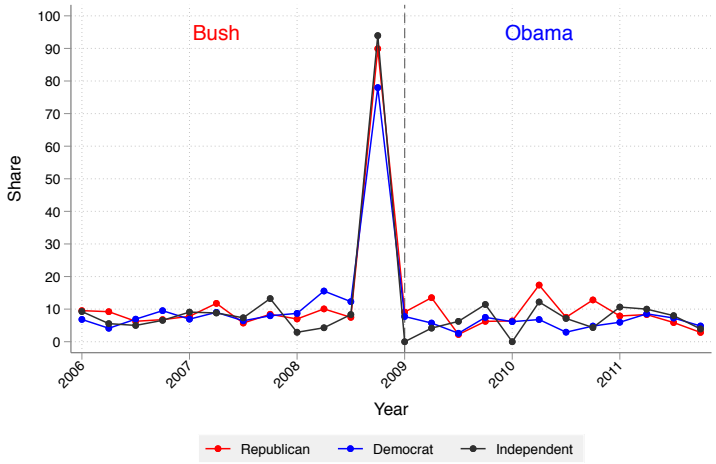
(c) Clinton-Bush Transition

Notes: Share of exits among (non-career) senior executive service officers around presidential transitions. Exit at t takes place if an individual is present in quarter t and not in $t+1$. Dashed vertical line marks the first quarter in the year of the transition.

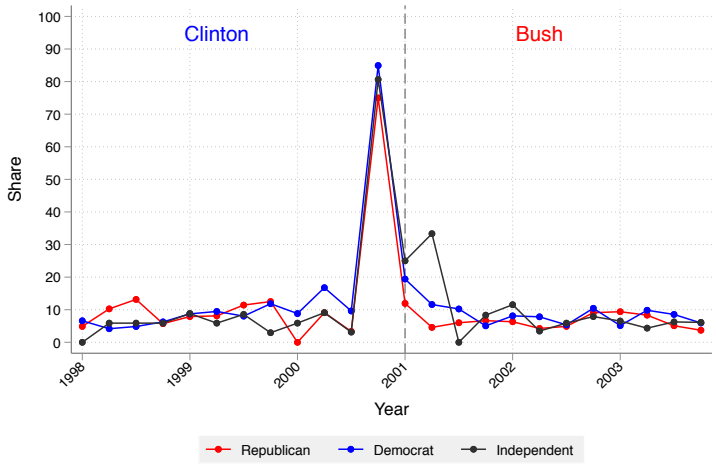
Figure D8: Share of Schedule C Appointees Leaving Around Presidential Transitions



(a) Obama-Trump Transition



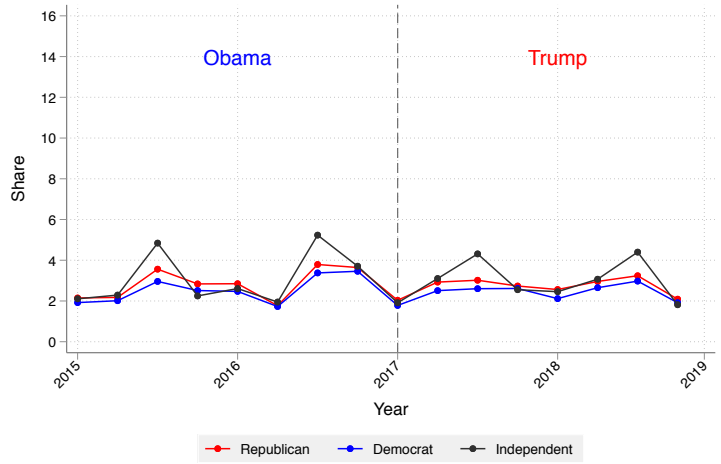
(b) Bush-Obama Transition



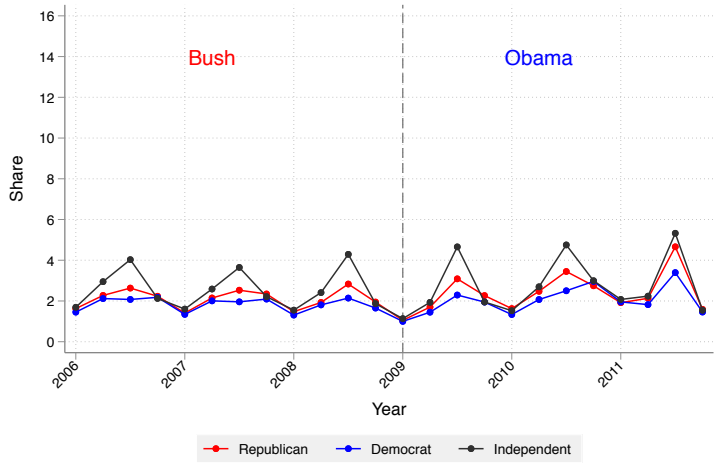
(c) Clinton-Bush Transition

Notes: Share of exits among Schedule C appointees around presidential transitions. Exit at t takes place if an individual is present in quarter t and not in $t+1$. Dashed vertical line marks the first quarter in the year of the transition.

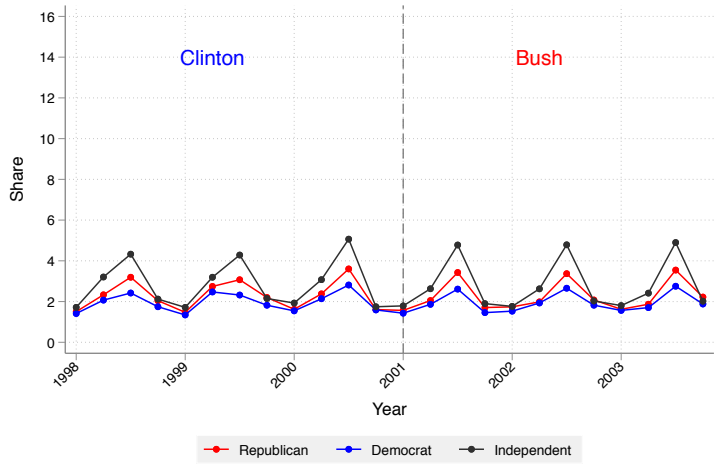
Figure D9: Share of Competitive Career Civil Servants Leaving Around Presidential Transitions



(a) Obama-Trump Transition



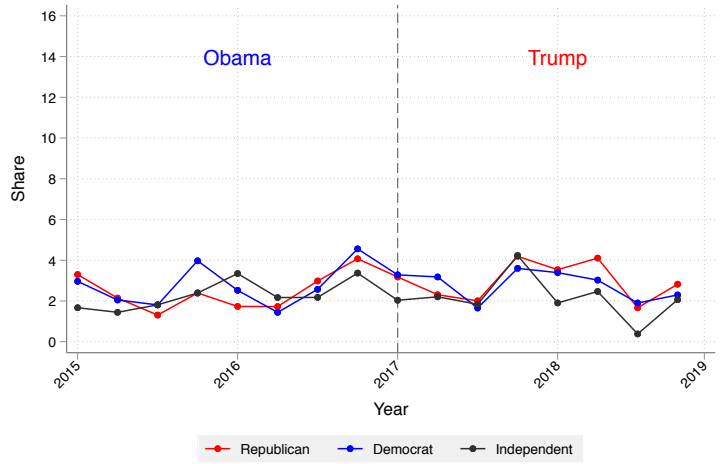
(b) Bush-Obama Transition



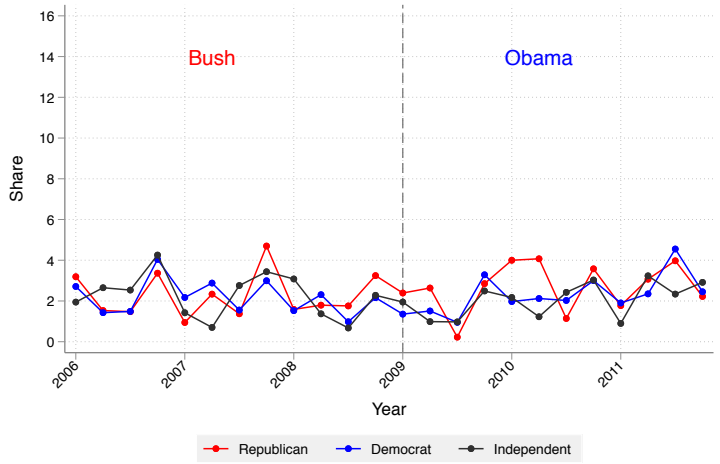
(c) Clinton-Bush Transition

Notes: Share of exits among competitive career civil servants around presidential transitions. Exit at t takes place if an individual is present in quarter t and not in $t+1$. Dashed vertical line marks the first quarter in the year of the transition.

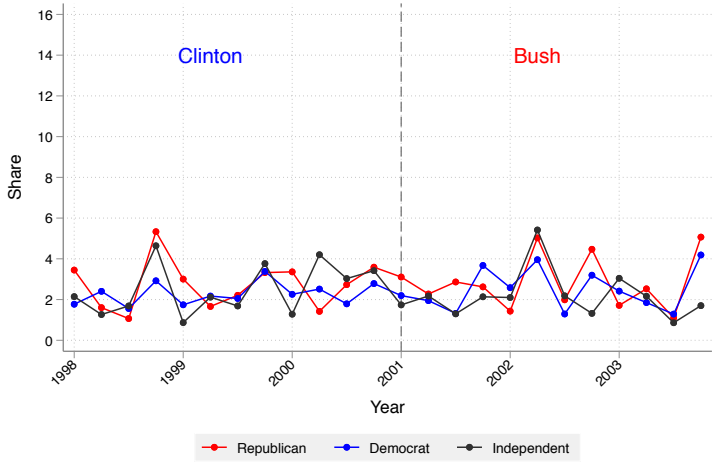
Figure D10: Share of Senior Executive Service Career Leaving Around Presidential Transitions



(a) Obama-Trump Transition



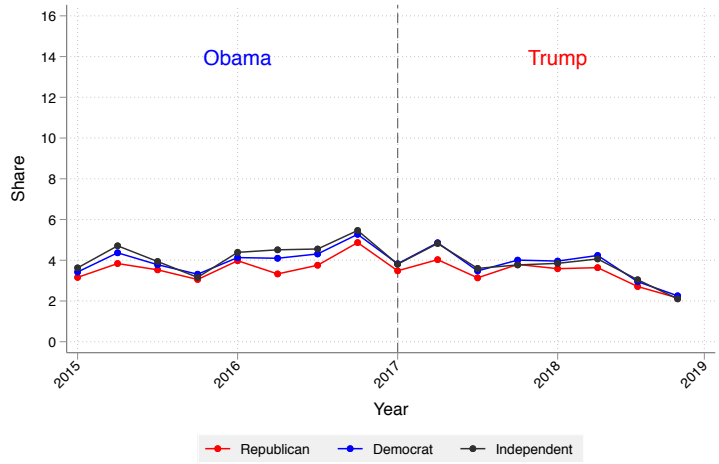
(b) Bush-Obama Transition



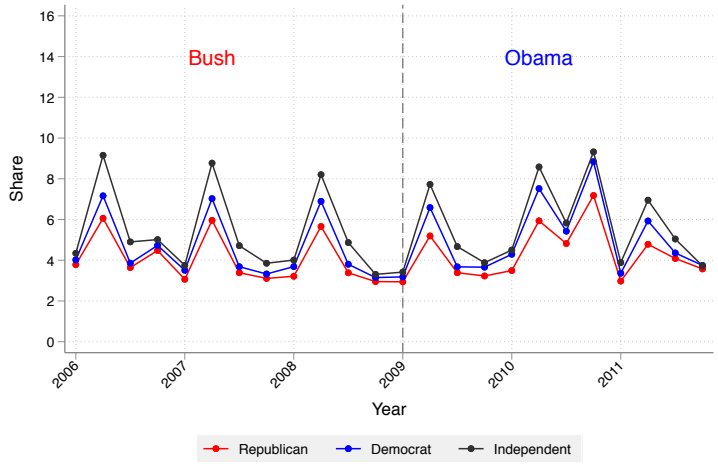
(c) Clinton-Bush Transition

Notes: Share of exits among career senior executive service officers around presidential transitions. Exit at t takes place if an individual is present in quarter t and not in $t+1$. Dashed vertical line marks the first quarter in the year of the transition.

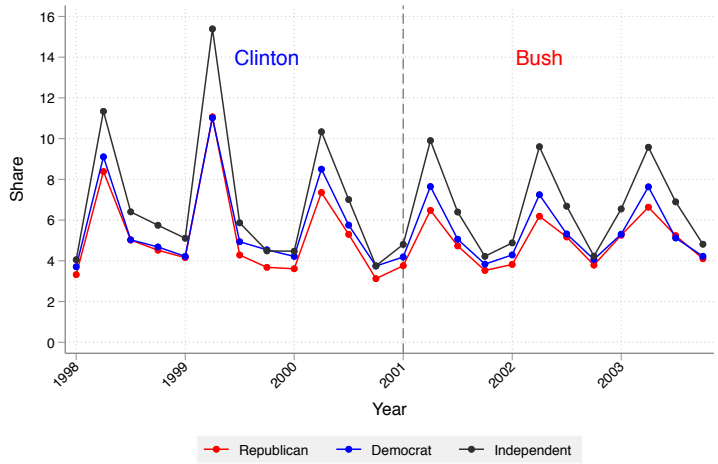
Figure D11: Share of Excepted Service (non political) Civil Servants Leaving Around Presidential Transitions



(a) Obama-Trump Transition



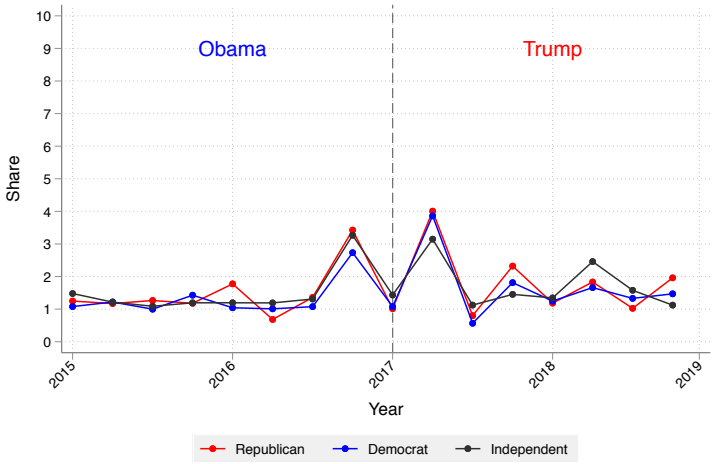
(b) Bush-Obama Transition



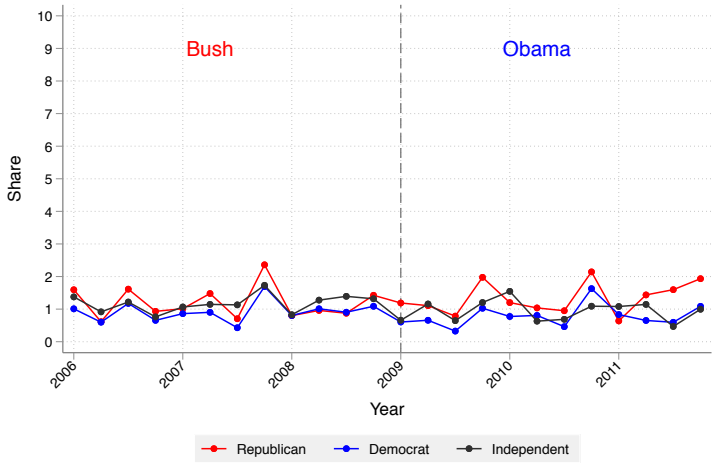
(c) Clinton-Bush Transition

Notes: Share of exits among (non political) excepted service appointees around presidential transitions. Exit at t takes place if an individual is present in quarter t and not in $t+1$. Dashed vertical line marks the first quarter in the year of the transition.

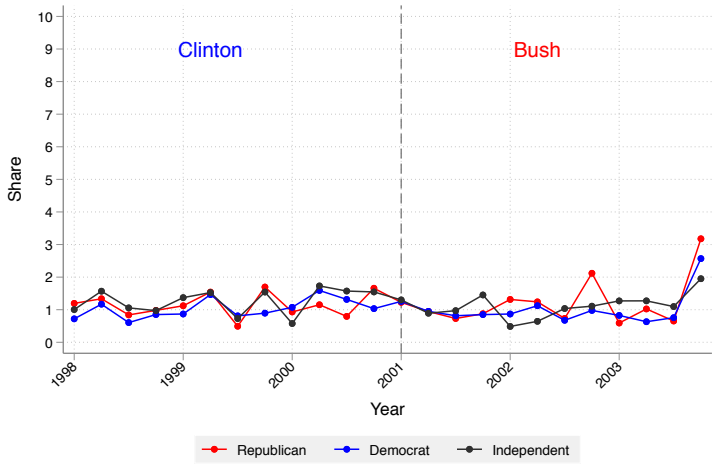
Figure D12: Share of EPA Employees Leaving Around Presidential Transitions



(a) Obama-Trump Transition



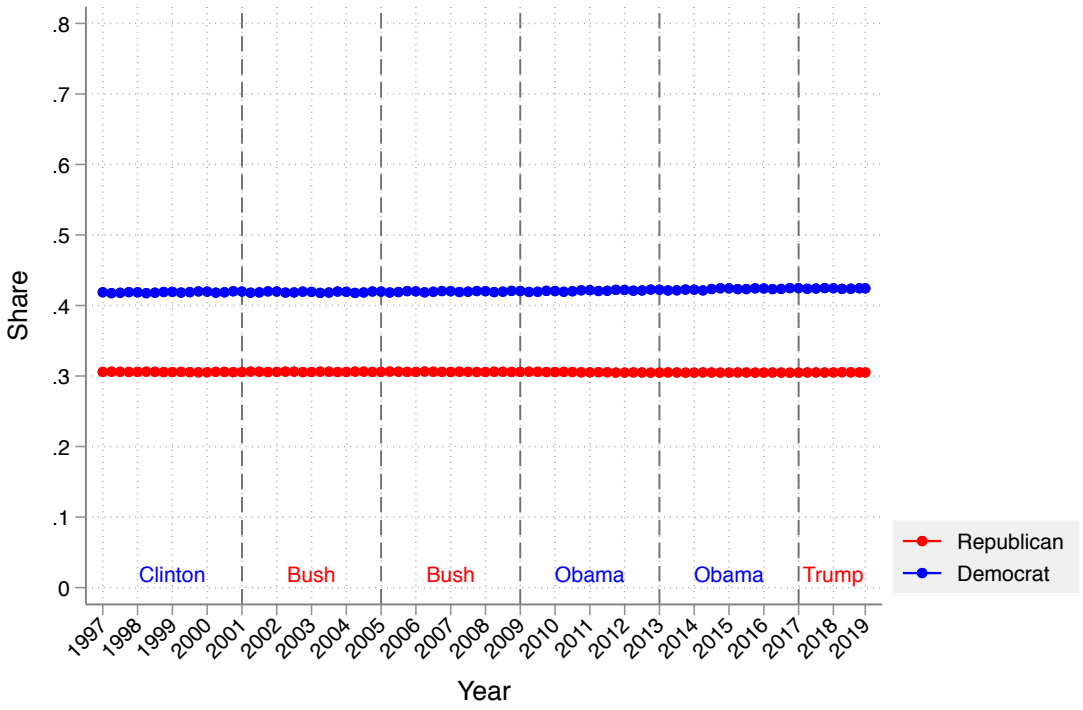
(b) Bush-Obama Transition



(c) Clinton-Bush Transition

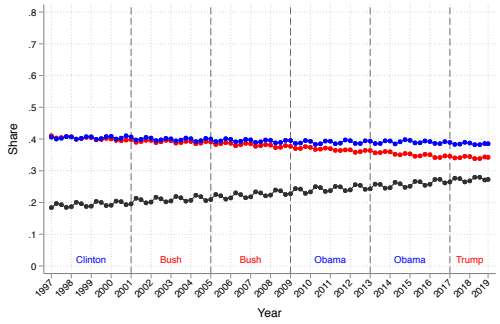
Notes: Share of exits among EPA employees around presidential transitions. Exit at t takes place if an individual is present in quarter t and not in $t+1$. Dashed vertical line marks the first quarter in the year of the transition.

Figure D13: Partisan Affiliation in the L2 population, weighted by state of employment of civil servants

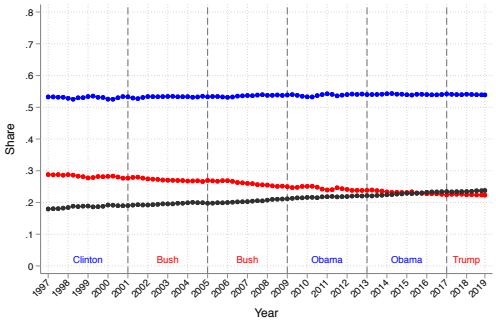


Notes: Share of L2 population by party, weighted by state of employment of civil servants.

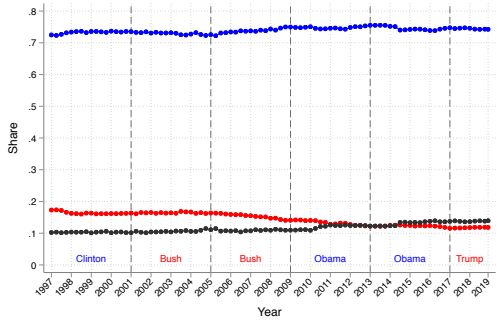
Figure D14: Partisan Affiliation – By Department and Major Agency



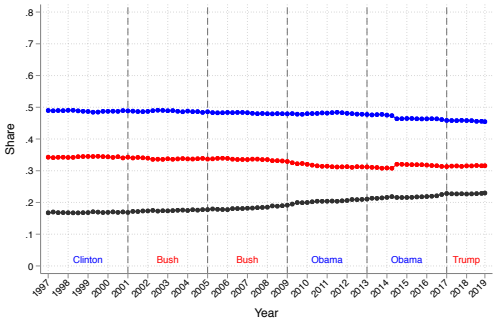
(a) Agriculture



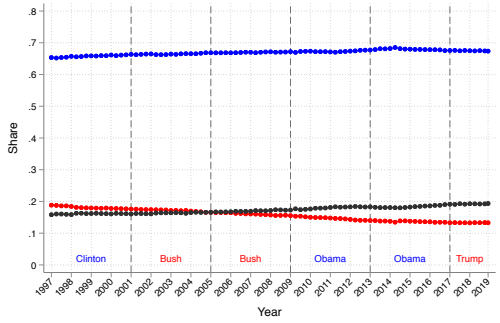
(b) Commerce



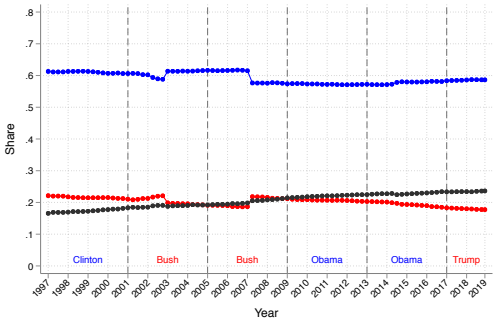
(c) Education



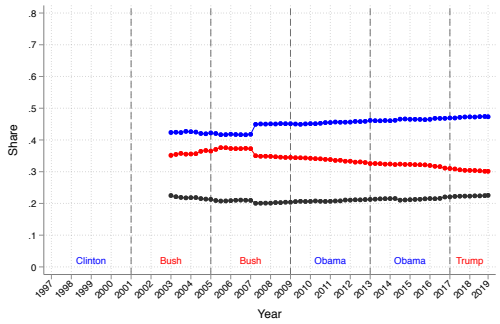
(d) Energy



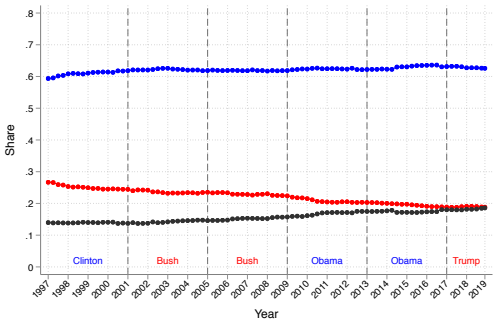
(e) EPA



(f) Health and Human Services



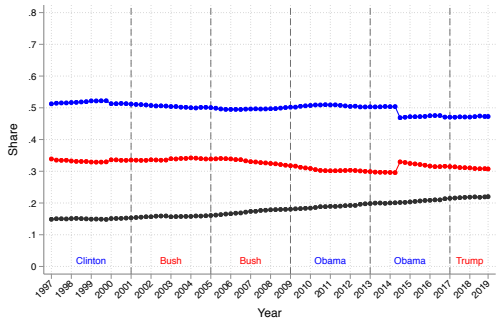
(g) Homeland Security



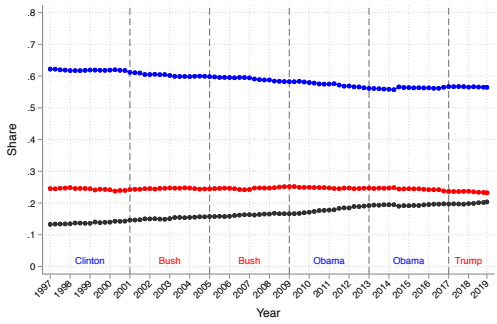
(h) Housing and Urban Development

Notes: Share of civil servants by party (Democrat=blue, Republican=red, Independent=black), department and major agency.

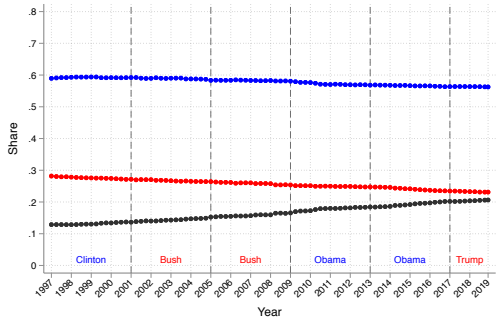
Figure D15: Partisan Affiliation – By Department and Major Agency (Continued)



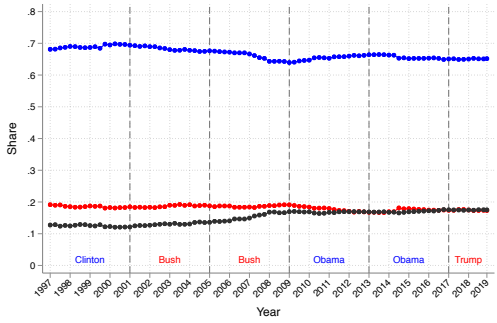
(a) Justice



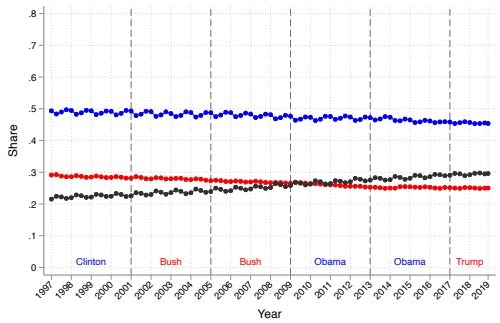
(b) Labor



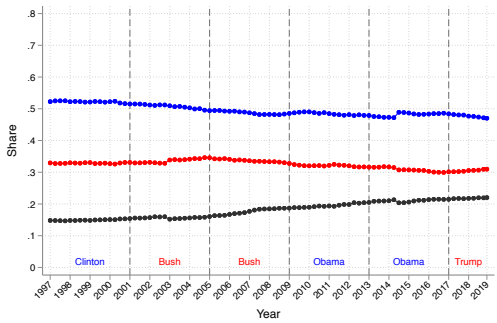
(c) Social Security Administration



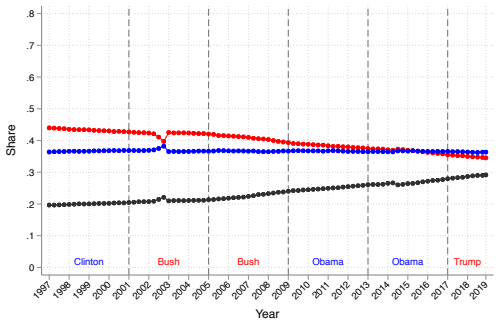
(d) State



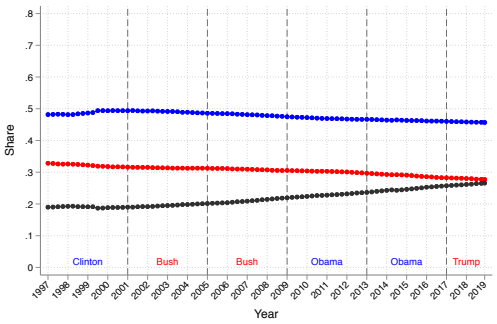
(e) Interior



(f) Treasury

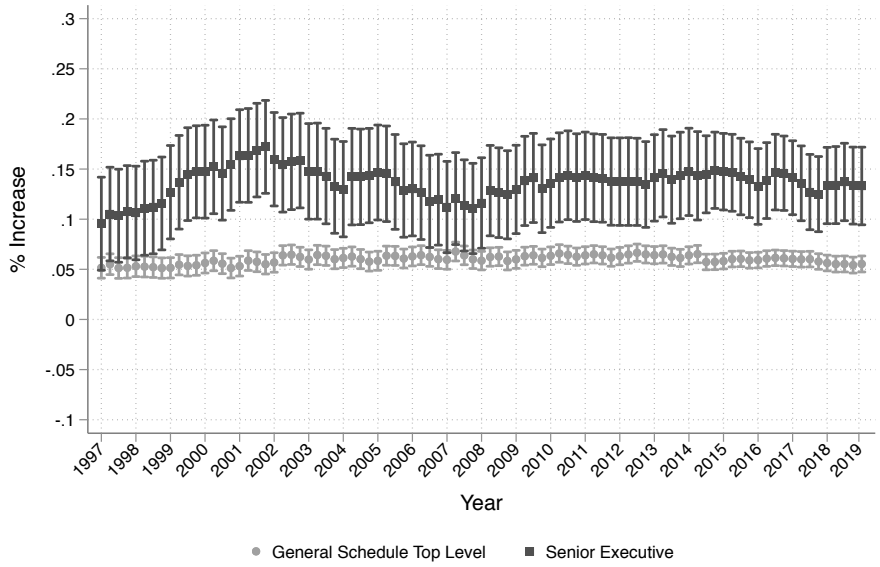


(g) Transportation



(h) Veteran Affairs

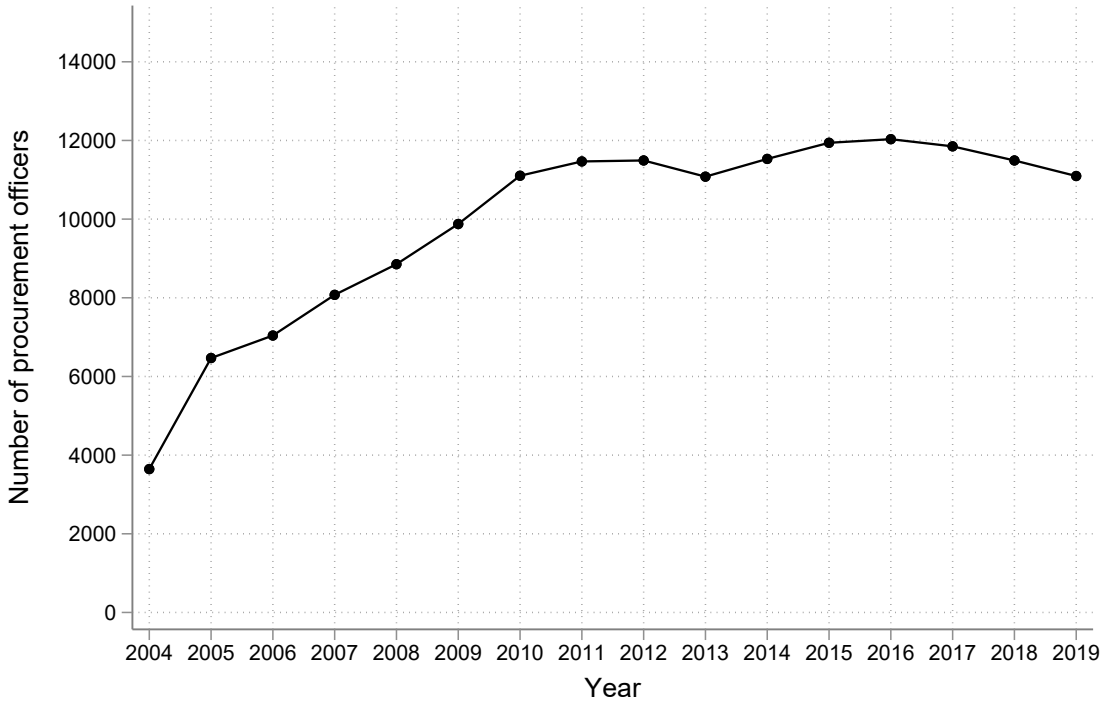
Figure D16: Share of Democratic Employees Increases Along the Hierarchy - Evolution over the sample period



Notes: Figure shows the percent increase in the share of Democrat civil servants for the top level general schedule (grade 13 and above) and the senior executive level, relative to the lower general schedule level (below grade 13) over time. Democrats are overrepresented at the higher levels of the bureaucracy and this gap remains largely constant throughout the sample period.

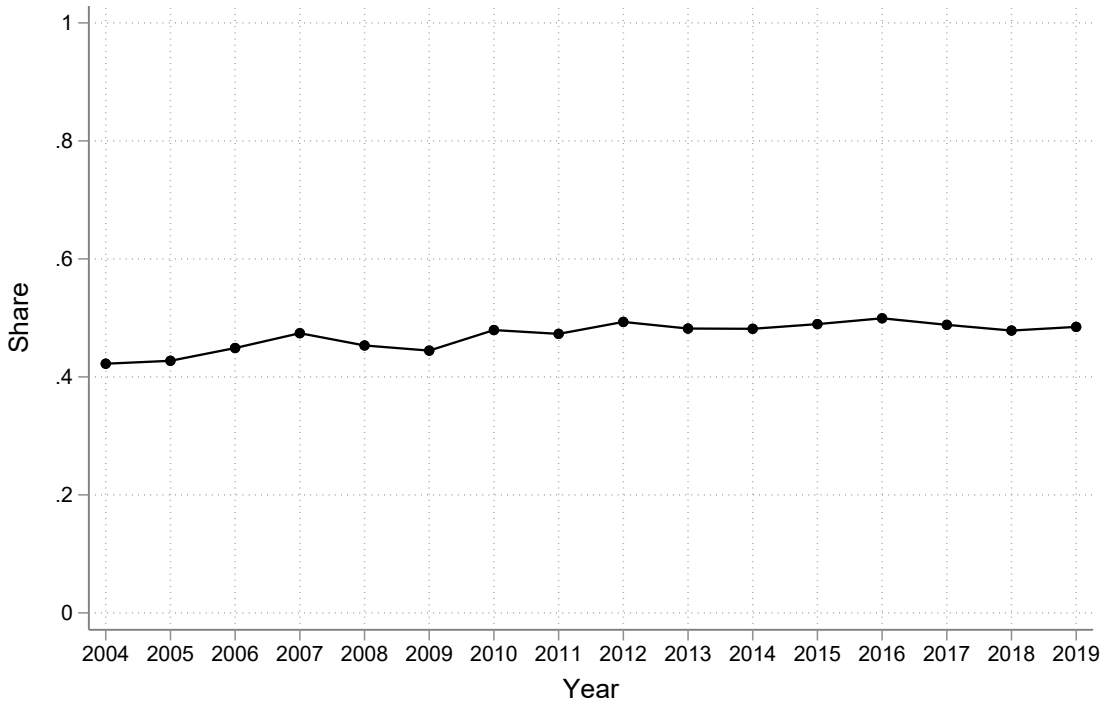
E Appendix Figures: Procurement

Figure E17: Number of identifiable procurement officers over time



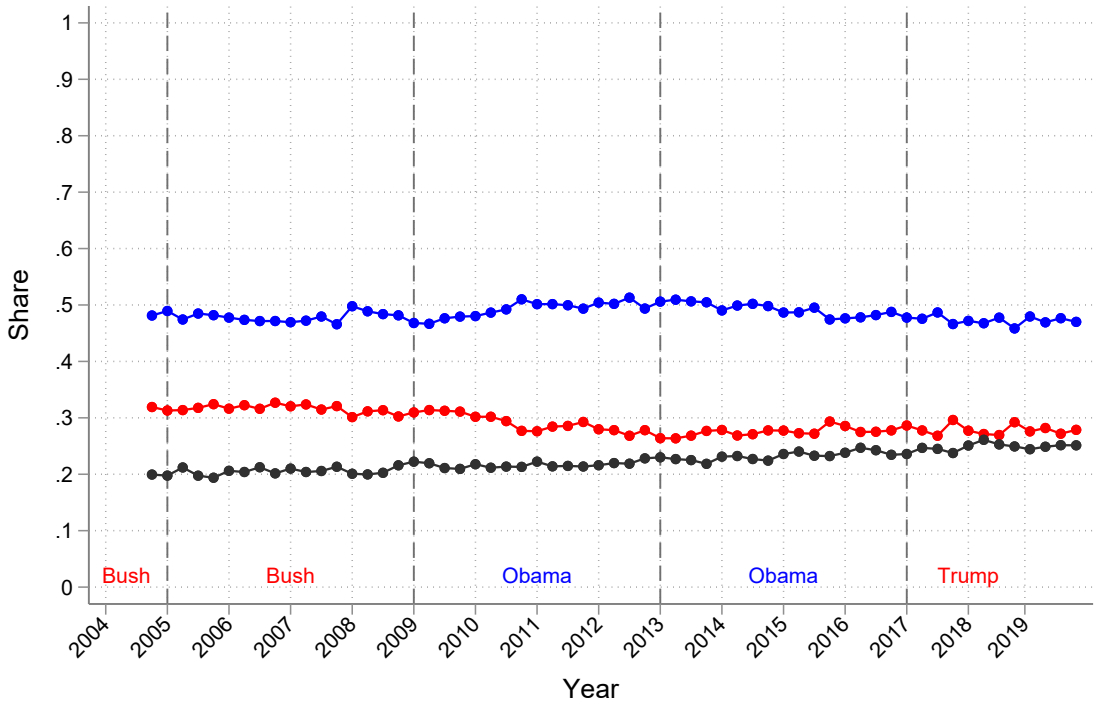
Notes: Number of individually identifiable procurement officers for contracts created in a given year. Contracts to services and works contracts in our analysis sample (see Table B4).

Figure E18: Share of Procurement Officers matched to Partisan Affiliation Data



Notes: Share of active procurement officers who could be matched to the party affiliation data. The match rate is conditional on being matched to the personnel (OPM) data.

Figure E19: Share of procurement officers by party affiliation



Notes: Share of active procurement officer by party affiliation over time. The party shares for procurement officers closely track the shares for the entire bureaucracy (see Figure 4).

F Appendix Documentation: OPM

In this section, we provide additional details on the OPM data, and on the process of matching the data to the L2 party registration data. Specifically, we describe *(i)* two limitations of the OPM data, and how we deal with them, *(ii)* the mapping between "type of appointment" codes in the OPM and our categorization of employees into "political appointees" and "civil servants," and *(iii)* the matching between the OPM and L2.

F.1 Data limitations in the OPM

The OPM data come with two caveats. The first caveat is that the data do not include information on employees in a number of departments and bureaus. These are: employees in defense and security (Air Force, Army, Navy, Defense, Defense Consolidated Metropolitan Technical Personnel Center, Defense Career Management and Support Agency, FBI, Secret Service, DEA, ATF, CIA, Defense Intelligence Agency, National Geospatial-Intelligence Agency, National Security Agency, Office of the Director of National Intelligence), the U.S. Mint, Foreign Service personnel of the State Department, IRS, U.S. Postal Service, Postal Regulatory Commission, White House Office, Office of the Vice President, Office of Policy Development, Board of Governors of the Federal Reserve, Tennessee Valley Authority, Panama Canal Commission, a number of legislative branch bureaus (Members or employees of Congress, Architect of the Capitol, Botanic Garden, Library of Congress, General Accountability Office, Congressional Budget Office, Stennis Center for Public Service, Office of Compliance), Commission on Security and Cooperation in Europe, Foreign Nationals Overseas, Public Health Service's Commissioned Officer Corps, and Non-appropriated fund employees. Furthermore, employees in a few occupations (mostly law enforcement officers and nuclear engineers) are excluded, independently of the department where they are employed.

The second caveat of the OPM data is that, starting in the third quarter of 2014, the data do not include employee identifiers, which allow to easily track over time employees with similar names. For this reason, we created employee identifiers for employees appearing in the 2014q3-2019q1 period. We do so on the basis of information on the employee's full name and education level, which are the two demographics which are included in the data for the full sample period (since we do not have information on age for 2017, 2018, and 2019). Specifically, for each year, we assign the same employee identifier to all observations with the same employee's full namd and education. We can use data for the 1997-2014q2 (which contain identifiers provided by the OPM) period to validate our approach to the creation of identifiers: reassuringly, in the 1997-2014q2 period, around 99% of observations with the

same employee name and education level in a year are assigned the same identifier; similarly, around 99% of identifiers in a year have no variation in employee name and education level (which can theoretically be possible, if an employee changes name or obtains additional training). We then match employees in the 2014q3-2019q1 (for which we created personal identifiers) with those in the 1997-2014q2 period (for which we have OPM identifiers) based on full name and education. Specifically, we start by matching employees in the 2014 (for quarters 3 and 4) to 2014 (for quarters 1 and 2); for those employees not found, we match them to employees in 2013; for those employees not found, we match them to employees in 2012; we continue with this procedure up until 1997. We then repeat the same procedure for employees in 2015, 2016, 2017, 2018, and 2019 (namely, employees in each of these years are matched to employees in the previous years).

F.2 Type of appointment codes

Throughout the paper, we differentiate employees between those who are in a position filled by a political appointees, and those in which appointments and removals are formally insulated from political influence. We do so on the basis of the OPM variable "type of appointment". The mapping between "type of appointment" codes and our categories is as following:

- Presidential appointments in top executive position: code 36 (Executive - Excepted Service Permanent), and code 46 (Executive - Excepted Service Nonpermanent)
- Politically appointed members of the Senior Executive Service (SES): code 55 (Noncareer SES permanent), code 60 (Limited Term SES - Nonpermanent), and code 65 (Limited Emergency SES - Nonpermanent).
- Schedule C appointees: code 44 (Schedule C - Excepted Service Nonpermanent).
- Competitive service: code 10 (Career - Competitive Service Permanent), code 15 (Career-Conditional - Competitive Service Permanent), and code 20 (Competitive Service Nonpermanent).
- Career members of the Senior Executive Service (SES): code 50 (Career SES permanent).
- Excepted service: code 30 (Schedule A - Excepted Service Permanent), code 32 (Schedule B - Excepted Service Permanent), code 35 (Schedule D - Excepted Service Permanent), code 38 (Other - Excepted Service Permanent), code 40 (Schedule A - Excepted

Service Nonpermanent), code 42 (Schedule B - Excepted Service Nonpermanent), code 45 (Schedule D - Excepted Service Nonpermanent), and code 48 (Other - Excepted Service Nonpermanent).

F.3 Matching

We match federal government employees to the L2 voter registration data using a combination of name, state of residence, and age (as of the last quarter in which the employee is observed in the data). We consider the state of employment as an employee's state of residence. We allow for multiple states of residence for the small minority of employees employed in multiple states. We assign Virginia and Maryland, in addition to DC, as possible states of residence for individuals employed in DC.[50] We implement the following six rounds of matching:

- Step 1: first name + midname + last name + state + age range. Only for employees with a midname.
- Step 2: first name + last name + state + age range.
- Step 3: first name + midname + last name + age range. Only for employees with a midname.
- Step 4: first name + last name + age range.
- Step 5: first name + midname + last name + state. Only for employees with a midname.
- Step 6: first name + last name + state.

Since the data report only the initials for the first name and/or midname of some federal employees (and some individuals in the L2 voter registration data), within each step, we first perform the matching using the full first name and midname, and we then repeat the matching using only the initials. Since the OPM reports information on employees' age using a 5 years age window (starting from 15-19 to 70-74). For employees over 74 (or 64, for some years), the OPM only reports the age window as "75 or more" (or "65 or more"). Therefore, we implement our matching by age by specifying that the year of birth of the individual in the L2 data must be in the 5 years window implied by the employee's age range window (while for employees older than 65 or older than 75, we only specified an upper bound to the

[50] In our matching procedure, successful matches on state are those in which the state of residence in the L2 voter registration data is among the employee's possible states of residence inferred from the OPM data.

year of birth of the individual in the OPM data). Importantly, at each step of the matching, we consider as unmatched cases in which a federal employee is matched to multiple records in the L2 voter registration data, or cases in which an individual in the L2 voter registration data is matched to multiple employees.

We are able to match 1,263,181 out of the 2,809,907 federal employees in our sample, for a 45% matching rate. Specifically, we match 603,526 employees (or 47.78% of all the matched employees) in step 1, 368,832 (or 29.2% of all the matched employees) in step 2, 75,547 (or 5.98% of all the matched employees) in step 3, 94,826 (or 7.51% of all the matched employees) in step 4, 75,033 (or 5.94% of all the matched employees) in step 5, and 45,417 (or 3.60% of all the matched employeees) in step 6.

G Appendix Documentation: Procurement

G.1 Sample selection

Appendix Table B4 summarizes the steps we take to get from the raw data to the final analysis sample. We start with the set of procurement contracts classified as service and works. In contrast to products, these are contract types where the vendor's effort can influence the outcome post-award, allowing us to construct cost overrun and delay measures (Decarolis et al., 2020b). These contracts can be identified using product service codes. We follow Carril et al. (2021) and also exclude R&D contracts since they are subject to a unique set of acquisition rules (FAR Part 35). This yields a total number of initial procurement contracts of 7,755,085.

Unfortunately, the OPM data does not provide the names of Department of Defense (DoD) employees. We therefore exclude from the analysis all DoD contracts. This reduces the sample of contracts to 5,015,529. In the next step, we drop indefinite vehicle contracts (IDV). These are contracts where the quantity of the supplies and services is not explicitly defined ex-ante, making it difficult to compute reliable measures of overrun and delays. This reduces the number of contracts to 4,757,985.

Following Decarolis et al. (2020b), we exclude lease and rental contracts from the analysis. These are contracts where ex-post effort and thus cost-overrun and delays are limited. This reduces our sample to 3,939,099 contracts. We then drop all contracts performed outside of the U.S., leaving us with a sample of 3,709,519. This is another standard assumption that is followed in the literature (Decarolis et al., 2020b; Kang and Miller, 2020) as the cost structure and contracting rules for non-U.S. contracts differ significantly. Finally, we drop the small number of contracts that were already in process (and for which we thus

cannot measure the initial contract size and expected duration). This reduces the sample to 3,646,840 contracts.

G.2 Matching

To link the 3,646,840 contracts to the personnel data and party affiliation, we use individual identifiers of procurement officers based on their email addresses. Each contract in the federal procurement database contains the email identifier for the individual who created the procurement contract (e.g. JOHN.SMITH@dept.gov). We can thus match the officer based on the email address and the corresponding bureau to the personnel data.

A limitation in this setting is that not all email addresses contain names of procurement officers, but instead only list a code or generic function (e.g. terminal1@dept.gov, admin@dept.gov). Since these contracts cannot be linked to individuals, we omit them from our analysis, reducing our sample to 2,845,525 (see Appendix Table B4). As Appendix Table B5 shows, these contracts with anonymous email addresses tend to be smaller contracts in terms of initial contract size and duration. They also happen to be created earlier in our sample period of 2004-2019. Appendix Figure E17 shows the total number of procurement officers over time. Since contracts are less likely to have anonymous email addresses in the later years, we see a gradual increase in the number of identifiable procurement officers over time. After 2010, the total number of procurement officers at around 11,000.

While all email addresses list a full surname, we often only have the initial of the first name (e.g. JSMITH@dept.gov). Furthermore, middle names are often omitted, making it difficult to uniquely identify individuals with common last names and first name initials. We therefore use information from the `Govtribe.com` database, which includes the full names of officers corresponding to a given email address.

We match in multiple steps. In the first step, we match individuals uniquely to those in the personnel dataset based on their exact full name and bureau. As with the matching of the OPM and L2 data, we proceed by using different combinations of the first name, middle name and last name:

- Step 1: first name + midname + last name + bureau
- Step 2: first name + midname initial + last name + bureau
- Step 3: first name + last name + bureau
- Step 4: last name + first name + bureau
- Step 5: last name + first name + midname + bureau

- Step 6: last name + first name + midname initial + bureau
- Step 7: last name + first name initial + bureau
- Step 8: last name + first name initial + midname initial + bureau
- Step 9: first name initial + last name + bureau
- Step 10: first name initial + mid name initial + last name + bureau

In the second step, for those with multiple matches, we disambiguate when possible by matching to the individual whose occupation is explicitly classified as a procurement officer.[51] In the final step, when multiple matches based on exact full name and bureau existed, we break the tie by matching at random. Overall, we are able to match 48% of the procurement officers, or 57% of all contracts for which name data is available. As Appendix Table B5 shows, the contracts that could not be matched to the personnel records tend to be smaller (both in contract size and duration), less likely to be construction contracts and created earlier. The match rate also remains constaint over time (see Appendix Figure E18).

Finally, we restrict the sample to the 44% of procurement officers who have party affiliation from the L2 dataset. This reduces the sample of contracts to 784,282. In terms of contract characteristics, however, the contracts with party affiliation are comparable to those without party affiliation (Appendix Table B5). In the last step, we drop observation for which data is missing or inconsistent, resulting in a final analysis sample of 718,362. Appendix Figure E19 shows the share of procurement officer broken down by party over time. The pattern closely resemble the results using the full sample of civil servants (see Figure 4). The share of Democrat procurement officers remains around 50% throughout the sample period. At the same time, there is a gradual monotonic decline in the share of Republican officers, which is offset by an increase in independents.

[51] Although the OPM explicitly provides procurement-specific occupation codes, there are also a series of generic clerical occupation codes under which procurement officers are classified. We use the explicit occupation codes of 1102 (Contracting series), 1105 (Purchasing series), 1106 (Procurement clerical and technician series).