

## IDEOLOGY AND PERFORMANCE IN PUBLIC ORGANIZATIONS

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We combine personnel records of the United States federal bureaucracy from 1997 to 2019 with administrative voter registration data to study how ideological alignment between politicians and bureaucrats affects turnover and performance. We document significant partisan cycles and turnover among political appointees. By contrast, we find no political cycles in the civil service. At any point in time, a sizable share of bureaucrats is ideologically misaligned with their political leaders. We study the performance implications of this misalignment for the case of procurement officers. Exploiting presidential transitions as a source of “within-bureaucrat” variation in political alignment, we find that procurement contracts overseen by misaligned officers exhibit greater cost overruns and delays. We provide evidence consistent with a general “morale effect,” whereby misaligned bureaucrats are less motivated to pursue the organizational mission. Our results thus help to shed some of the first light on the costs of ideological misalignment within public organizations.

KEYWORDS: Bureaucracies, public procurement, mission alignment.

### 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 (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

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mismatch between bureaucrats and politicians abounds. For instance, the Trump administration's decision to roll back environmental regulations was reportedly 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." Examples like these can be found across the world and in both non-profit and for-profit organizations.

In this paper, we turn to the U.S. federal government to investigate the role of mission 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 government, 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 civil servants 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 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 and 2019 with administrative data on all registered voters in the United States. By combining both sources of information, we are the first to measure ideology—and thus political alignment—for almost two million individuals throughout nearly the entire federal bureaucracy.<sup>1</sup>

In the first part of the paper, we provide a descriptive analysis of how the careers of federal bureaucrats depend on their ideological alignment with the party in power. We show that the president can and does leverage his limited power over personnel in order to achieve greater ideological alignment with 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 p.p. more likely to be fellow Democrats than under a Republican one. For Republican appointees, we observe a 46 p.p. increase relative to years in which the president is a Democrat. In sharp contrast, 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. These trends are not affected by the party of the sitting president. Moreover, we find no evidence that political alignment has an impact on civil servants' career progression. Our descriptive findings, therefore, suggest

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<sup>1</sup>Strictly speaking, we measure bureaucrats' party affiliation rather than their ideology. Since partisanship and ideology tend to be highly correlated—especially in today's polarized political climate—we often use both terms interchangeably.

that the core of the U.S. federal government resembles a Weberian bureaucracy, which is largely protected from political interference. At any given point in time, however, a significant number of rank-and-file bureaucrats are ideologically misaligned with their political superiors.

In the second part of the paper, we provide the first evidence on the performance implications of this kind of misalignment. In light of the insulated nature of the career civil service, it stands to reason that many 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 selection of buyers and in the monitoring of contracts. Moreover, procurement contracts account for a significant share of the federal budget. In 2019, federal procurement expenditures amounted to about 10% of U.S. gross domestic product (Schwarzenberg (2022)).

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 more than 15,000 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, Giuffrida, Iossa, Mollisi, and Spagnolo (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 her political superiors, we find that misalignment increases cost overruns by approximately 1% of initial contract value—about 6% relative to the mean overrun. This result holds even when comparing procurement officers working in the same department and year. We show that the alignment effect is concentrated in high-value contracts with a large expected value and high uncertainty, consistent with a greater importance of officers’ effort in determining the outcome of contracts that are more complex. In addition, our findings are significant around both the Bush-Obama (2001–2017) and the Obama-Trump transition (2009–2019), suggesting that they are not specific to a particular president. Finally, we find that complex contracts overseen by a misaligned officer are also more likely to exhibit delays in their execution.

In the last part of the paper, we attempt to shed light on the mechanisms behind these previously unknown alignment effects. We first evaluate whether the lower performance of misaligned officers may result from differential assignment of officers to tasks. We show that this is unlikely to be the case. Officers’ workload and contract characteristics, such as size, projected duration, or contract complexity, do not significantly covary with political alignment. We also find no evidence that alignment and performance interact in determining officers’ career progression, which suggests that the lower performance of misaligned officers is unlikely to be driven by differential pecuniary incentives. Instead, using data from a large, repeated survey of U.S. federal bureaucrats, we provide evidence that hints at a general “morale effect” of mission-alignment. We examine a host of measures of employees’ perceptions and attitudes towards their workplace, and we show that

bureaucrats report exerting more effort and identifying to a greater extent with the mission of their organization when they are politically aligned with the party controlling the White House.<sup>2</sup>

*Related Literature.* Our findings contribute to four broad literatures. First, our results speak to large theoretical literatures on the internal organization of the bureaucracy (e.g., Bendor, Glazer, and Hammond (2001), Prendergast (2003), Maskin and Tirole (2004), Alesina and Tabellini (2007)), and on non-pecuniary incentives for motivating agents (see, e.g., Bénabou and Tirole (2003), Besley and Ghatak (2005), Francois (2000), Prendergast (2007), Forand, Ujhelyi, and Ting (2022)). As we explicate in Section 6, our findings are consistent with some of these theories but are difficult to rationalize through the lens of others.

Second, our results are related to a growing empirical body of work on bureaucratic turnover, selection, and performance. Previous research has documented different real-world costs due to turnover of bureaucrats (Iyer and Mani (2011), Akhtari, Moreira, and Trucco (2020)). There is also evidence on how political turnover affects employment outcomes within and selection into the bureaucracy (Colonnelli, Prem, and Teso (2020), Barbosa and Ferreira (2019), Brassiolo, Estrada, and Fajardo (2020), Fiva, Geys, Heggedal, and Sørensen (2021), Xu (2018)). It is important to note, however, that extant work focuses on developing countries, where the bureaucracy may be more susceptible to political interference, even if it is nominally insulated. In the context of the United States, 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, we find little evidence of political interference in the selection of rank-and-file bureaucrats. While a politically insulated civil service is typically considered a hallmark of good government, we present empirical evidence that it does come with a cost.

More closely related to our work is a small, recent literature in political science and public administration that empirically studies partisanship in the U.S. bureaucracy. One strand of this literature attempts to estimate the degree of ideological proximity between different departments, political appointees, and the president (see, e.g., Nixon (2004), Bonica, Chen, and Johnson (2015), Bertelli and Grose (2011)). Another strand focuses on bureaucratic turnover. Bertelli and Lewis (2020) used data from a survey of federal executives to show that human capital and perceptions of policy influence correlate with bureaucrats' intentions to leave. Bolton, de Figueiredo, and Lewis (2020) studied turnover in the aftermath of presidential transitions. They presented 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. Our study builds and improves upon extant work in two ways. 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 federal bureaucracy. In other words, our analysis does not have to contend with the limitations of small-scale surveys and estimated agency-level ideological scores. Unlike previous work, we can thus not only ask whether politically aligned individuals are more likely to be hired, promoted, or to exit relative to their misaligned counterparts in other agencies but also *within* the same department. In addition, our individual-level

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<sup>2</sup>The Supplemental Material (Spenkuch, Teso, and Xu (2023)) contains additional results and information on the data used in the paper.

data allow us to ask entirely new questions. By linking individual procurement officers to contract outcomes, we can investigate whether bureaucrats' ideological alignment is associated with tangible differences in performance.

Third, our results add to the empirical literature on incentives and mission in public organizations (see Ashraf and Bandiera (2018) for a review). A growing body of work provides evidence on the role of pecuniary incentives in motivating bureaucrats (Khan, Khwaja, and Olken (2016), Bertrand, Burgess, Chawla, and Xu (2019), Khan, Khwaja, and Olken (2018), Leaver, Ozier, Serneels, and Zeitlin (2020)), and on the role of public service motivation in the selection of frontline providers in developing-country settings (Ashraf, Bandiera, and Jack (2014), Deserranno (2019), Ashraf, Bandiera, Davenport, and Lee (2020), Khan (2021)). We add to this literature by exploiting the sharp shifts in the organizational mission of the U.S. bureaucracy to document how mission-alignment shapes performance. 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 empirical evidence that "mission matters," even in the context of a textbook bureaucracy in a high-income country.

Fourth, our results contribute to an important literature on public procurement. Prior research has examined the role of individual procurement officers in explaining contract performance (Bandiera, Prat, and Valletti (2009), Best, Hjort, and Szakonyi (2016), Decarolis et al. (2020b)), the role of discretion in contracting (Coviello, Guglielmo, and Spagnolo (2018), Szucs (2020), Decarolis, Fisman, Pinotti, and Vannutelli (2020a), Baltrunaite, Giorgiantonio, Mocetti, and Orlando (2020), Bandiera, Best, Khan, and Prat (2020), Baltrunaite (2019)), as well as the role of competition (Kang and Miller (2020), Carril, Gonzales-Lira, and Walker (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. We show that the performance of the same procurement officers changes over time depending on their alignment with the organizational mission. To the best of our knowledge, we are the first to exploit the individual identifiers in the U.S. raw procurement data to relate procurement performance to the identity and characteristics of procurement officers.

## 2. DATA AND CONTEXT

Our analysis combines data on employees of the U.S. federal bureaucracy, 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 Supplemental Material.

### 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. We made an additional FOIA request to the OPM in May 2022, extending the coverage of our data to the end of 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, and age (expressed in five-year intervals).<sup>3</sup>

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.<sup>4</sup> 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 two broad categories.<sup>5</sup> 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. These 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 members 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)).<sup>6</sup> 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 0.24% of 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 are hired based on a competitive selection process with objective standards. Career

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<sup>3</sup>Throughout the paper, we refer to both federal departments and independent agencies as *departments*, while we refer to sub-units of departments or independent agencies as *bureaus*.

<sup>4</sup>In some cases, the departments are not included in the data, while in other cases, the names of the employees are redacted. See Supplemental Material Appendix C for the list of departments for which no information is reported.

<sup>5</sup>For the full list of OPM type-of-appointment codes, see Supplemental Material Appendix C.

<sup>6</sup>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.

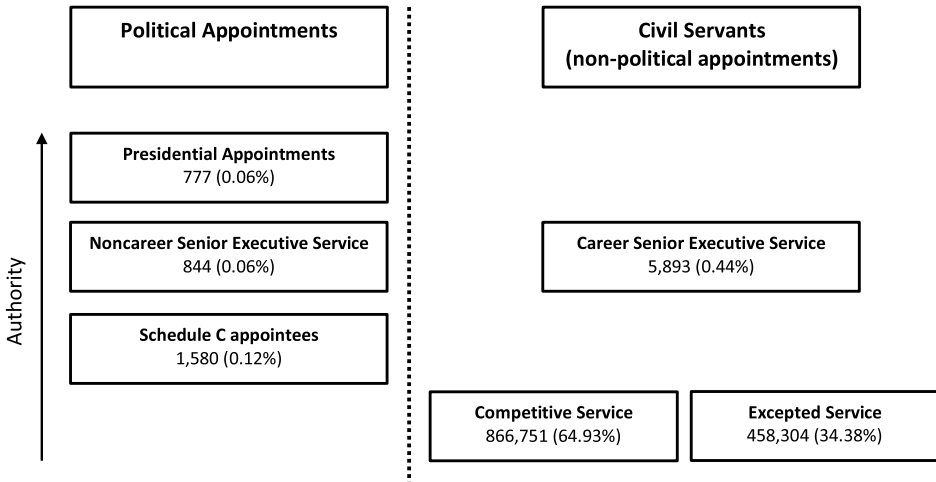


FIGURE 1.—Categorization of positions in the U.S. federal bureaucracy. *Notes:* Breakdown of positions in the U.S. federal bureaucracy by the type of appointment (political appointments vs. non-political civil service appointments). The numbers reported are the average yearly number of employees employed in each position type between 1997 and 2019. The shares shown in parentheses are the average yearly shares of employees employed in each position type between 1997 and 2019.

SES positions include senior executives that are selected through a merit-based hiring process.<sup>7</sup> 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. 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 average number of bureaucrats employed during our sample period. Our final data set includes 2,940,914 employees with non-missing information on name, for a total of 76,813,841 employee-quarter observations.<sup>8</sup>

### 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 United States. These data 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

<sup>7</sup>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. Non-career appointments, however, cannot exceed 10% of SES positions government-wide, nor can they surpass 25% of a particular department’s SES positions.

<sup>8</sup>Supplemental Material Appendix Figure A1 shows how the number of employees in our data varies over the 1997–2019 period.

to political candidates and action committees (PACs), advocacy groups, and interested academics, among others. We have four waves of data, for 2014, 2016, 2018, and 2020.

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 these states, L2 uses predictive modeling to impute a "likely" party affiliation.<sup>9</sup> Per the company, their 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. Another limitation of the L2 data is that 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)).

We construct a time-invariant measure of political ideology by classifying individuals in the L2 data as Republican (Democrat) if we observe them more often registered as Republican (Democrat) than Democrat (Republican) across the four L2 waves. We classify as independent all individuals who are classified as such across all the L2 waves, or who we observe as Republican and Democrats for an equal number of waves. 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.<sup>10</sup>

### 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, location of residence, (i.e., state and county), and age. Overall, we are able to successfully match 1,985,726 out of the 2,940,914 bureaucrats in our sample, that is, about 67.5%.<sup>11</sup> The fact that about 32.5% 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.

<sup>9</sup>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 the OPM data, the share of bureaucrats from these states is 27%. In Supplemental Material Appendix E, we show that our main results are substantively unchanged if we drop from our sample bureaucrats who are matched to individuals in L2 who reside in one of these states.

<sup>10</sup>Changes in partisan registration across waves are relatively rare. Of the bureaucrats that we match to L2, only 6% change party across different waves, and only 2.6% are registered for the same number of waves as Democrat and Republican. In Supplemental Material Appendix E, we show that our main results are substantively unchanged if we drop the 6% of bureaucrats who change party across different waves.

<sup>11</sup>We first match employees to the L2 waves that are closest in time to the years in which we observe them in the data, and then match the remaining ones to the other L2 waves. Among the successfully matched individuals, 76.5% are matched by name, year of birth, and location. Since we lack information on age for a small share of federal employees, and since employees may be registered in a state that is different than the state of employment, we also allow for less stringent matching requirements. Twelve point seven percent of the matched individuals are linked by name and year of birth, while 10.8% are matched by name and location. We additionally assign partisan affiliation to individuals with multiple matches to L2, as long as all the matches share the same partisan affiliation. In Supplemental Material Appendix E, we show that our main results are substantively unchanged if we drop from our sample the 6.9% of bureaucrats with multiple matches. The matching rate increases slightly over the 1997–2019 period. Supplemental Material Appendix Figure A2 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 Supplemental Material Appendix C.



TABLE I  
DIFFERENCES IN OBSERVABLES BETWEEN MATCHED AND UNMATCHED BUREAUCRATS.

	(1)	(2)	(3)	(4)	(5)	(6)
	Matched		Unmatched		Matched – Unmatched	
	Mean	Standard Deviation	Mean	Standard Deviation	Standardized Difference	<i>p</i> -value Equivalence test
Age less than 30	0.423	0.494	0.454	0.498	–0.061	0.000
Age 30–40	0.259	0.438	0.250	0.433	0.020	0.000
Age 40–50	0.173	0.378	0.157	0.364	0.041	0.000
Age 50–60	0.110	0.313	0.099	0.299	0.035	0.000
Age more than 60	0.035	0.185	0.040	0.196	–0.025	0.000
Highest education: college	0.232	0.422	0.218	0.413	0.035	0.000
Highest education: more than college	0.266	0.442	0.253	0.434	0.030	0.000
Quarters in federal bureaucracy	43.285	44.104	27.731	38.311	0.362	1.000
Annual pay	40,074.176	34,186.187	43,173.673	36,916.879	–0.088	0.000
Employed in D.C.	0.124	0.330	0.128	0.334	–0.012	0.000
Observations	1,985,726		955,188		2,940,914	

*Note:* Descriptive statistics (mean and standard deviation) of individuals for whom party affiliation is available (matched, columns 1–2) and for those for whom party affiliation is unavailable (unmatched, columns 3–4). Column 5 reports the difference in means, divided by the standard deviation in the pooled sample of matched and unmatched. Column 6 reports the *p*-value from tests for the equivalence of means using a two one-sided *t*-tests approach; the reported *p*-value is the largest of the two *p*-values from two one-sided *t*-tests, under the null hypothesis that the difference is larger than 0.1 standard deviation, or smaller than –0.1 standard deviation, respectively. Sample includes all civil servants with non-redacted names serving between 1997 and 2019.

Second, we consider as unmatched all instances in which a bureaucrat is matched to multiple voter registration records, unless all the voter records have the same partisan affiliation. Third, a significant fraction of bureaucrats is not registered to vote. Based on our analysis of data from the 2010–2018 Voting and Registration Supplements to the Current Population Survey, only about 86% of civilian federal government employees are registered voters; and given the likely direction of survey bias in this setting, 86% may even be an upper bound on the true share of registered voters among federal bureaucrats.

Table I shows how matched and unmatched bureaucrats differ in terms of age, education, experience, annual pay, and location of employment. Columns 1 and 3 report the mean of each characteristic among matched and unmatched bureaucrats, respectively, and columns 2 and 4 report the standard deviations in both samples. Column 5 reports the standardized difference in means between matched and unmatched bureaucrats.<sup>12</sup> Given the large sample size, all differences in Table I are statistically significant. Most of the magnitudes, however, are small.

To formalize this assertion, we conduct equivalence tests. That is, we test the null hypothesis that the observed difference in some characteristic is economically large. We say that a difference in means is meaningfully large if it exceeds 10% of a standard deviation, and in column 6 of Table I we report *p*-values for the associated hypothesis test. In our

<sup>12</sup>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.

view, equivalence testing is preferable to assessing the null hypothesis of no difference, especially when working with big data. In large data sets, even economically inconsequential differences may well register as statistically significant. Importantly for our purposes, we reject the null hypothesis of economically large differences for nine out of ten characteristics.

Only in terms of experience do we see an economically meaningful difference between matched and unmatched bureaucrats. Matched bureaucrats are present in the data for 15.5 additional quarters on average (corresponding to 0.362 standard deviations).<sup>13</sup> Matched bureaucrats are also on average older and more educated, but these differences are economically small. Relative to unmatched employees, matched bureaucrats are 3.1 p.p. less likely to be younger than 30. They are 1.4 p.p. more likely to have a four-year college degree, and 1.3 p.p. more likely to have some form of post-graduate education. The observed 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.

Finally, to directly address potential concerns over any observed differences between matched and unmatched bureaucrats, in Supplemental Material Appendix F we show that our main results are qualitatively robust when we correct for selection into our sample by using inverse probability weighting (see [Wooldridge \(2007, 2002\)](#)).

#### 2.4. *Procurement Data*

To relate political misalignment to tangible outcomes, we rely on U.S. federal procurement data covering 2004–2019. This allows us to study two presidential transitions (Bush–Obama, Obama–Trump).<sup>14</sup> 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.<sup>15</sup>

<sup>13</sup>A nontrivial part of the difference in experience between matched and unmatched bureaucrats is due to the fact that we need to match bureaucrats who worked for the federal government in the 1990s and 2000s to voter registration records over a decade later. Another, related reason for the observed difference in experience is that our matching procedure relies on bureaucrats' location of employment/residency. This is necessary in order to disambiguate between common names. Bureaucrats with longer employment spells have a more stable location of employment and residence, leading to a higher matching rate.

<sup>14</sup>Data limitations prevent us from extending the analysis further back in time, which should be kept in mind when assessing the external validity of our results.

<sup>15</sup>In addition to the OPM data being redacted for the Department of Defense, only 8.7% of DoD contracts provide information on the individual procurement officer in charge (compared to 60% for the non-DOD sample). Defense contracts account for about 60% of all procurement contracts in our sample period. The share of defense contracts among service and works contracts (excluding R&D) is 35%. We advise readers to keep these numbers in mind when thinking about the external validity of our results.

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 were performed within the United States.<sup>16</sup> 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.<sup>17</sup>

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 remove those that do not contain a name (e.g., admin@dept.gov). We then extract individuals' names as well as 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, a private data vendor that specializes in providing information on federal contracting and grant-making. 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 data set covers 1,079,923 procurement contracts created by 15,187 procurement officers across 168 departments and bureaus. Supplemental Material Appendix Table BIII provides a step-by-step documentation of the sample selection process, and Supplemental Material Appendix Table BIV reports summary statistics.<sup>18</sup>

### 3. POLITICAL ALIGNMENT IN THE U.S. BUREAUCRACY

In this section, we use our matched data to document the presence of large partisan cycles among political appointees, and the absence of partisan cycles among civil servants.

#### 3.1. *Partisan Cycles Among Political Appointees*

We begin by documenting how the partisan leanings of political appointees covary with the party of the president. Political appointments are the prerogative of the president, vice president, or department heads. Since staffing decisions constitute one of the few direct tools to align the bureaucracy with the goals of the White House (Pffner (2001), Clinton, Bertelli, Grose, Lewis, and Nixon (2012)), we expect significant cycles in the ideology of political appointees.<sup>19</sup>

Figure 2 shows the raw share of political appointees that are affiliated with the Democratic party, with the Republican Party, and those who are independent.<sup>20</sup> Consistent with

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<sup>16</sup>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)).

<sup>17</sup>We show in Supplemental Material Appendix Table BVI that our results are robust to alternative cutoffs for winsorizing.

<sup>18</sup>For additional details on our selection and matching criteria, see Supplemental Material Appendix D.

<sup>19</sup>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, Chen, and Johnson (2015)), or policy positions that cabinet members express during congressional testimony (Bertelli and Grose (2011)).

<sup>20</sup>In this figure, we pool all political appointments, that is, presidential appointments, non-career SES, and Schedule C appointees.

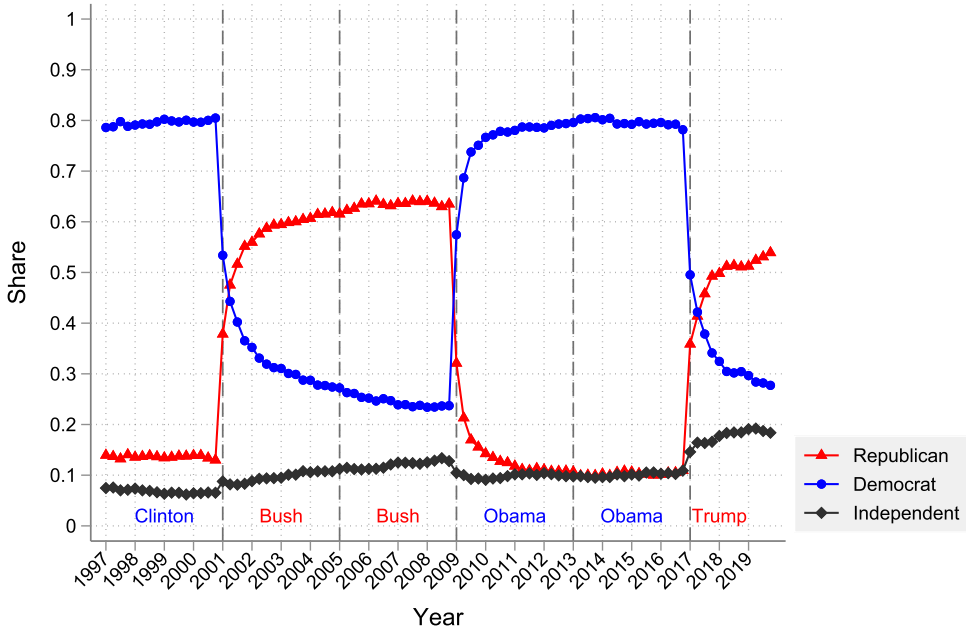


FIGURE 2.—Partisan affiliation of political appointees. *Notes:* Share of political appointees (presidential appointments, non-career senior executive service, Schedule C appointees) by party over time. Dashed vertical lines mark presidential terms.

the use of the spoils system to increase ideological alignment between politicians and top bureaucrats, we observe large partisan swings coinciding with presidential transitions. The share of Democratic appointees falls from about 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 60% during the Bush administration, and to about 50% during the Trump administration. The cycles among independent appointees are more limited, with the share of independents rising from about 10% to about 20% under the Trump administration.

Table II, Panel A reports regression estimates that more precisely quantify the magnitude of the observed shifts. In columns 1 and 5, 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. We also 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.<sup>21</sup> Under a Democratic president, political appointees are 49.4 p.p. more likely to be a fellow Democrat—a 171% 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 45.8 p.p., or 371%, when a Republican rises to power.

Columns 2–4 and columns 6–8 of Table II, Panel A report estimates of partisan cycles for each category of political appointment. Interestingly, we see larger effects for Non-career SES and Schedule C appointees than for presidential appointments to top

<sup>21</sup>The estimates are very similar if we drop independents from the analysis, or if we do not include bureau fixed effects.

TABLE II  
POLITICAL CYCLES AMONG POLITICAL APPOINTEES AND CIVIL SERVANTS.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Employee is Democrat				Employee is Republican			
<i>Panel A: Political Appointees</i>								
Sample:	All Pol. Appointees	Presidential Appointees	Non-career SES	Schedule C Appointees	All Pol. Appointees	Presidential Appointees	Non-career SES	Schedule C Appointees
President Democrat	0.494 (0.008)	0.251 (0.016)	0.591 (0.015)	0.546 (0.011)				
President Republican					0.458 (0.008)	0.237 (0.016)	0.550 (0.015)	0.505 (0.011)
Observations	139,114	32,245	36,734	70,164	139,114	32,245	36,734	70,164
Effect size	+171%	+62%	+235%	+213%	+371%	+109%	+571%	+537%
<i>Panel B: Civil Servants</i>								
Sample:	All Civil Servants	Competitive Service	Career SES	Excepted Service	All Civil Servants	Competitive Service	Career SES	Excepted Service
President Democrat	-0.002 (0.000)	-0.003 (0.000)	0.002 (0.004)	0.001 (0.000)				
President Republican					0.000 (0.000)	-0.000 (0.000)	0.002 (0.003)	0.003 (0.000)
Observations	58,882,915	38,041,926	291,662	20,665,132	58,882,915	38,041,926	291,662	20,665,132
Effect size	-0.4%	-0.5%	+0.4%	+0.2%	+0.1%	-0.1%	+0.7%	+0.8%
Bureau FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note: Regression estimates of the party alignment effect. The unit of observation is the individual-quarter. In columns 1–4, the dependent variable is a dummy that is 1 if the civil servant is a Democrat, and 0 otherwise. In columns 5–8, the dependent variable is a dummy that is 1 if the civil servant is a Republican, and 0 otherwise. *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. The sample covers all matched individuals between 1997 and 2019. In Panel A, columns 1 and 5 restrict the sample to all political appointees, columns 2 and 6 restrict the sample to presidential appointments, columns 3 and 7 restrict the sample to non-career senior executive service officers, columns 4 and 8 restrict the sample to Schedule C appointees. In Panel B, columns 1 and 5 restrict the sample to all civil servants, columns 2 and 6 restrict the sample to the competitive career service, columns 3 and 7 restrict the sample to career senior executive service officers, columns 4 and 8 restrict the sample to employees in the non-political excepted service. All regressions include a linear time trend, and bureau fixed effects. The effect size is defined as the estimated coefficient divided by the mean of the dependent variable when the president is Republican (columns 1–4) or Democrat (columns 5–8). Standard errors in parentheses, clustered at the individual level.

executive positions. This observation is consistent with the fact that the latter commonly require confirmation from the Senate, which may induce the president to nominate either more independents or a more-balanced mix of partisans. In a similar vein, Supplemental Material Appendix Figure A3 shows that the partisan composition of Non-career SES and Schedule C appointees changes discontinuously in the year of a presidential transition, whereas changes in the partisan composition of presidential appointees occur much more gradually—presumably due to delays in the process of their confirmation.

### 3.2. Political Insulation of Civil Servants

Next, we ask how civil servants’ appointments and career progression depend on ideological alignment with the current administration. Although formally insulated from political interference, there exist at least two potential mechanisms 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

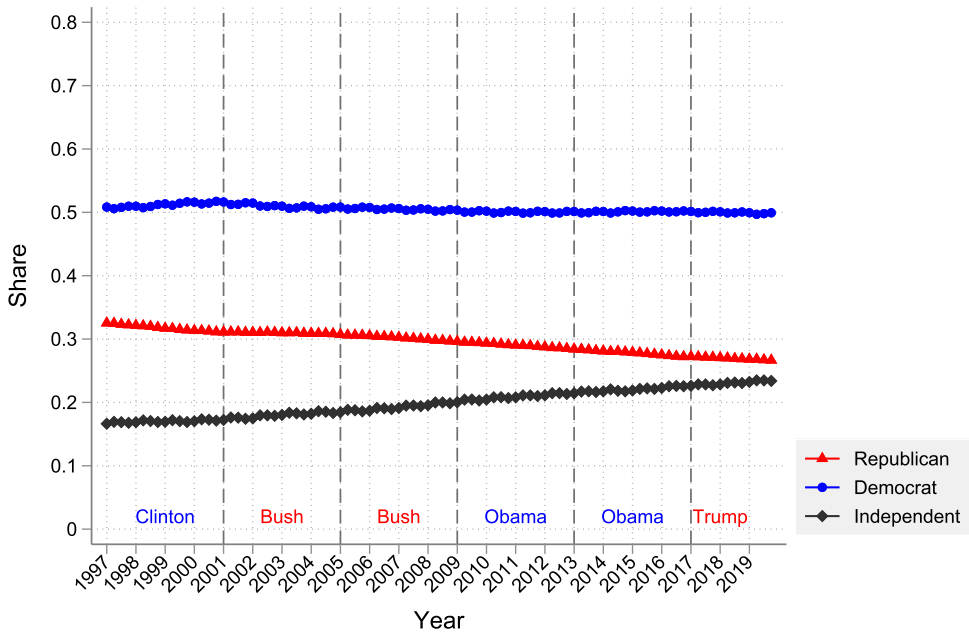


FIGURE 3.—Partisan affiliation of civil servants. *Notes:* Share of (non-political) civil servants (competitive service, career senior executive service, excepted service) by party over time. Dashed vertical lines mark presidential terms.

to fill positions with ideologically aligned 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 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 3 and Table II, 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 Table II, Panel B. Although our estimates are very precise—due to the size of our panel—they are economically small, both when we consider all civil servants (columns 1



TABLE III  
POLITICAL ALIGNMENT AND CAREER PROGRESSION OF CIVIL SERVANTS.

	(1)	(2)	(3)	(4)	(5)	(6)
	Log total pay		Transferred away from D.C.			
Politically aligned	0.0002 (0.0001)	-0.0008 (0.0001)	0.0002 (0.0001)	0.0001 (0.0001)	0.0000 (0.0005)	-0.0002 (0.0005)
Observations	57,445,624	57,445,176	6,169,574	6,168,189	146,434	142,893
Sample	All	All	Non-SES	Non-SES	SES	SES
Individual FEs	Yes	Yes	Yes	Yes	Yes	Yes
Year-Quarter FEs	Yes		Yes		Yes	
Year-Quarter-Bureau FEs		Yes		Yes		Yes

Note: Regression estimates of the party alignment effect on pay and transfers away from D.C. 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 D.C. 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 D.C. 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 D.C. to outside D.C. *Politically aligned* is a dummy that is 1 if the civil servant and president are from the same party. Standard errors in parentheses, clustered at the individual level.

and 5) and when we separately analyze each type of civil service position (columns 2-4 and columns 6-8).<sup>22</sup>

In Supplemental Material Appendix Table BI, we focus on the hiring margin. For each civil servant, we keep the first observation in an employment spell and re-estimate the same econometric models as in Table II. At the hiring margin, we do find evidence of political cycles in the excepted service and, especially, in the senior executive service. The magnitude of the relevant estimates, however, is relatively small when compared to those of political appointees. In quarters with a Democratic (Republican) president, new senior executive hires are 5.7% (10.1%) more likely to be fellow Democrats (Republicans). This finding is consistent with political appointees trying to exert control over civil servants in managerial positions. Another explanation might be that candidates for senior executive positions have lucrative opportunities outside of the federal government, which makes them less likely to apply for a civil position if they disagree with the overall direction of the organization (see, e.g., Bolton, de Figueiredo, and Lewis (2020)).

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 1 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 III. They are very precise but provide no evidence of economically significant alignment effects on the compensation of civil servants.<sup>23</sup>

We additionally investigate whether employees who are misaligned with the president are more likely to be transferred—a strategy that department heads may use to create

<sup>22</sup>Supplemental Material Appendix Figure A4 shows trends in partisan affiliation for each type of civil servant position.

<sup>23</sup>Supplemental Material Appendix Table BII shows that we do not find alignment effects on compensation in the sample of political appointees. This is in line with the selection margin (hiring and terminations), and not the influence on career progression, being the primary tool with which presidents put aligned individuals in key managerial positions in the government.

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 III. 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 only 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, termination, or promotion of ideologically aligned bureaucrats.<sup>24</sup> First, for most bureaucrats, the benefits of a long-term career in the federal government may outweigh 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.<sup>25</sup>

#### 4. IDEOLOGICAL ALIGNMENT AND PROCUREMENT PERFORMANCE

Our descriptive analysis shows that, at any one point in time, a sizeable share of federal bureaucrats is 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. Moreover, procurement contracts make up a sizeable share of the federal budget. In 2019, the combined value of federal procurement expenditures amounted to 10% of U.S. gross domestic product (Schwarzenberg (2022)).

Supplemental Material Appendix Figure A7 shows the share of procurement officers by party over time. The patterns therein mirror the results in the previous section. In other words, there is no evidence of partisan cycles among procurement officers.<sup>26</sup>

##### 4.1. *Measurement and Empirical Strategy*

To study the implications of ideological misalignment among procurement officers, we construct two measures of procurement performance: in-scope cost overruns and delays. Cost overruns and delays constitute ex post deviations from the initial contract and are standard measures of contract performance in the procurement literature (see, e.g., Bajari

<sup>24</sup>We also analyzed the exit margin. Again, we find no meaningful increase in overall exit rates around presidential transitions. If we focus only on the career senior executive service, however, then we do observe a significant increase in exits during the last quarter of the Obama administration. This is consistent with previous results by Bolton, de Figueiredo, and Lewis (2020), who documented an increase in turnover among the most senior civil servants when a new administration takes office.

<sup>25</sup>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."

<sup>26</sup>A regression of an indicator for whether a procurement officer is a Democrat on an indicator for whether the president in power is Democrat, and a similar regression for Republicans, confirm the absence of political cycles ( $p$ -values are 0.737 and 0.593, respectively).

and Tadelis (2001), Decarolis et al. (2020b), Kang and Miller (2020)). Our analysis focuses on cost overruns as the main performance measure as it allows us to directly quantify the monetary costs of (mis)alignment. The measure is defined as the difference between the realized and the (ex ante) expected outcome, relative to the initial expectation:

$$\text{cost overrun}_j = \frac{(\text{actual cost}_j - \text{initial cost}_j)}{\text{initial cost}_j}, \tag{1}$$

where actual cost<sub>j</sub> is the ex post realized cost, and initial cost<sub>j</sub> denotes the expected cost of contract *j*. We construct our measure of delay in the same way.<sup>27</sup>

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

$$y_j = \beta \cdot \textit{Politically aligned}_{I(j)T(j)} + \theta_{I(j)} + \tau_{T(j)} + \varepsilon_j, \tag{2}$$

where *y<sub>j</sub>* is the procurement outcome of contract *j* (e.g., its cost overrun), which was created in year × month *t* = *T(j)*. *i* = *I(j)* denotes the procurement officer who created it, and *Politically aligned*<sub>*I(j)T(j)*</sub> is an indicator equal to 1 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 × month fixed effects, respectively. The latter absorb common temporal shocks, which helps to address concerns about the timing of contract initiation being correlated with political alignment. To account for the fact that officers handle multiple contracts, we cluster standard errors at the officer level.

To see how  $\beta$  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,  $\beta$  is identified by comparing over-time changes in the performance among officers who experience shocks, that is, officers who switch from being aligned with the apex of government to being misaligned and vice versa.<sup>28</sup>

Our measure of political alignment 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.<sup>29</sup> 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 the variable *Share politically aligned*<sub>*I(j)T(j)*</sub>. This variable corresponds to the fraction of a given contract’s expected life-cycle in which the assigned procurement officer was ideologically aligned with the current administration. *Share politically aligned* thus varies continuously between zero and 1.<sup>30</sup> Below, we show results from specifications that use this alternative alignment measure in lieu of the *Politically aligned*<sub>*I(j)T(j)*</sub> indicator.

<sup>27</sup>The definition above follows Carril, Gonzales-Lira, and Walker (2021). Our results are robust to using alternative measures, such as those in Decarolis et al. (2020b).

<sup>28</sup>In Equation (2), Independents are never aligned and experience no changes in alignment. Although Independents contribute no identifying variation, we include them in our regressions in order to more precisely estimate the coefficients on various control variables.

<sup>29</sup>In our sample, 7% 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 results also hold when restricting the sample to only contracts executed and completed under the same political alignment throughout.

<sup>30</sup>Since the contract duration is potentially endogenous, we compute the share of alignment using the pre-determined expected duration at time of contract award.

4.2. *Political Alignment Reduces Cost Overrun*

Table IV reports the results from estimating Equation (2). Panel A shows the results using the relative cost overrun measure defined in Equation (1). Panel B focuses on the extensive margin, using as the dependent variable an indicator equal to 1 if the contract exhibits any cost overrun. All results include procurement officer fixed effects as well as fixed effects for year  $\times$  month of contract creation.

Column 1 shows that contracts overseen by procurement officers under political alignment with the president are completed with lower average cost overruns. This is true along both the extensive and the intensive margin. The estimated effect size is economically significant, amounting to 1% of the initial contract value or about 6% of the average overrun. On the extensive margin, contracts overseen by aligned officers are 1 percentage point (p.p.) less likely to exhibit overruns.

Column 2 adds controls for the officer's years of service and a wide range of contract characteristics, such as the 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 code fixed effects.<sup>31</sup> These granular product and service type fixed effects al-

TABLE IV  
POLITICAL ALIGNMENT REDUCES COST OVERRUN.

	(1)	(2)	(3)	(4)	(5)	(6)
<i>Panel A: Relative cost overrun</i>						
Mean of dep. var	0.186	0.186	0.186	0.186	0.186	0.186
Politically aligned	-0.011 (0.004)	-0.013 (0.004)	-0.011 (0.004)			
Share politically aligned				-0.014 (0.004)	-0.015 (0.004)	-0.013 (0.004)
<i>Panel B: Any cost overrun</i>						
Mean of dep. var	0.235	0.235	0.235	0.235	0.235	0.235
Politically aligned	-0.010 (0.003)	-0.012 (0.003)	-0.011 (0.003)			
Share politically aligned				-0.011 (0.003)	-0.012 (0.003)	-0.011 (0.003)
Year $\times$ Month FEs	Yes	Yes	Yes	Yes	Yes	Yes
Individual FEs	Yes	Yes	Yes	Yes	Yes	Yes
Controls		Yes	Yes		Yes	Yes
Department $\times$ Year FEs			Yes			Yes
Observations	1,079,923	1,079,923	1,079,923	1,079,923	1,079,923	1,079,923

*Note:* The unit of observation is the contract. The dependent variable in Panel A is *Relative cost overrun*: the difference between the actual costs and the expected costs, normalized by the expected costs (see Equation (1)). The dependent variable in Panel B is *Any cost overrun*: a dummy that is 1 if the contract exhibits any cost overrun. *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 expected duration in which the procurement officer and the president were from the same party. Controls comprise: *Years of experience fixed effects*, *Log(Contract size in USD)*, *Log(expected duration in days)*, *Log(total contracts created in a given year and quarter)*, *industry (NAICS) fixed effects*, *award type FEs*, *contract pricing FEs*, *product service code FEs*. Standard errors in parentheses, clustered at the procurement officer-level.

<sup>31</sup>The product and service code ("PSC") is a four-character code used by the federal government to classify purchases. Overall, there are 2323 codes in use (as of October 2021). Contracts in our analysis sample (due to sample restrictions, see Table B3) cover  $\approx$  1400 categories. As an example for a product and service code,

low us to account for differences in the composition of products and services procured which might vary with political alignment if, for instance, aligned officers are more likely to contract products and services that are mission-critical. We also control for the total number of contracts a given officer has created in the same year and month. The coefficients of interest, however, remain virtually unchanged. This suggests that the alignment effects are unlikely to be driven by differences in contract characteristics—a mechanism that we revisit in Section 5.

Column 3 includes 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 estimates to noticeably decrease after controlling for Department  $\times$  Year fixed effects. This is not the case.

Columns 4–6 replicate our baseline results using our refined, continuous measure of alignment, which exploits variation in the share of contract duration that was executed under an aligned president. The results are, if anything, somewhat larger and more precise, suggesting that exposure to alignment during the contract’s execution period is important in explaining the effects that we uncover. In other words, contracts that were handled by an officer who was aligned for a longer period of time exhibit significantly lower cost overruns. In fact, as shown in Supplemental Material Appendix Figure A8, the partial relationship between our continuous measure of alignment and cost overruns appears to be approximately linear.

In the Supplemental Material, we provide a series of additional robustness checks to corroborate our main finding. In Supplemental Material Appendix Table BV, we show that the results are robust to alternative definitions of cost overrun. Appendix Table BVI shows that the results are also robust to using a variety of alternative thresholds for dropping outliers. Appendix Figure A9 demonstrates that our results are not driven by any particular department. Supplemental Material Appendix Subsection F.2 shows that the results also hold up when reweighting the matched sample to be representative of the full sample in terms of initial contract size, duration, and procurement officer experience. Finally, Appendix Table EII shows that the results are robust to dropping procurement officers who (i) are matched to multiple voter registration records, (ii) change party affiliation across different L2 waves, and (iii) are matched to voter registration records in states where L2 models party affiliation.

### 4.3. *Heterogeneity and Event Study*

In Table V, we examine heterogeneity in effect size. In columns 1 and 2, we split the full sample into procurement contracts above and below the \$25,000 threshold. Contracts above \$25,000 tend to be contracts that are more complex and for which discretion—and hence an individual officer’s effort—is likely to be more important (Decarolis et al. (2020b)). Consistent with this view, we find that alignment effects are largely concentrated in contracts over \$25,000. Although we do observe a reduction in overrun for small contracts, the point estimate is considerably smaller and statistically insignificant.<sup>32</sup>

In columns 3 and 4, we divide our sample according to a different measure of complexity. We classify each good and service according to how predictable cost overruns are

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F108 stands for “Hazardous Substance Removal, Cleanup, and Disposal Services and Operational Support” and makes up 6.6% of procurement contracts in the EPA. See [www.acquisition.gov/psc-manual](http://www.acquisition.gov/psc-manual) for more details on the taxonomy.

<sup>32</sup>In Supplemental Material Appendix Table BVII, we also show the breakdown by contract-size quartiles.

TABLE V  
POLITICAL ALIGNMENT AND COST OVERRUN, BY CONTRACT COMPLEXITY AND TRANSITION.

	(1)	(2)	(3)	(4)	(5)	(6)
			Relative cost overrun			
Mean of dep. var	0.116	0.282	0.0797	0.290	0.181	0.197
<i>Panel A: Political alignment at time of award</i>						
Politically aligned	-0.004 (0.004)	-0.018 (0.005)	-0.008 (0.003)	-0.013 (0.006)	-0.011 (0.004)	-0.011 (0.005)
<i>Panel B: Share of contract duration politically aligned</i>						
Share politically aligned	-0.005 (0.004)	-0.021 (0.005)	-0.008 (0.004)	-0.017 (0.007)	-0.014 (0.004)	-0.015 (0.005)
Year × Month FEs	Yes	Yes	Yes	Yes	Yes	Yes
Individual FEs	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Department × Year FEs	Yes	Yes	Yes	Yes	Yes	Yes
Sample	\$25k-	\$25k+	SD(Residual overrun) Low	High	Bush-Obama	Obama-Trump
Observations	626,651	450,664	536,986	540,183	926,085	873,841

*Note:* 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 (1)). *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 expected duration in which the procurement officer and the president were from the same party. Columns 1 and 2 restrict the sample to contracts with an expected contract size of below \$25,000, or at least \$25,000, respectively. Columns 3 and 4 restrict the sample to contracts with below, or above median uncertainty in overruns (measured as the standard deviation in the residual overrun after conditioning on ex ante observable contract characteristics), respectively. Columns 5 and 6 restrict the sample to contracts created between 2001 and 2017 and 2009 and 2019, respectively. Controls comprise: *Years of experience fixed effects*, *Log(Contract size in USD)*, *Log(expected duration in days)*, *Log(total contracts created in a given year and quarter)*, *industry (NAICS) fixed effects*, *award type FEs*, *contract pricing FEs*, *product service code FEs*. Standard errors in parentheses, clustered at the procurement officer-level.

by computing the standard deviation in the residual after conditioning on ex ante observable contract characteristics. Contracts for goods and services with higher residual variance are less likely to be standardized, which leads us to expect that procurement officers' effort and discretion would have greater impact. Furthermore, these more uncertain contracts are also likely to be those where moral hazard issues are more prevalent (Carril, Gonzales-Lira, and Walker (2021)). Although we do observe nontrivial alignment effects for contracts below median uncertainty in overruns, our estimates are even larger for contracts with less predictable outcomes.

In columns 5 and 6, we ask whether the observed alignment effect varies across presidential transitions. We split our sample into the Bush-Obama transition (2001–2017) and the Obama-Trump transition (2009–2019). This allows us to test whether alignment effects are driven by a particular transition and whether they depend on whether Democratic or Republican officers become aligned. As both columns show, the estimated alignment effects are approximately symmetric: both Democrats *and* Republicans see lower cost overruns of comparable magnitude under an aligned president.<sup>33</sup> This is an important finding because it suggests that the alignment effects that we uncover are more likely to reflect a general phenomenon, rather than a party- or president-specific effect.

<sup>33</sup>Given the multitude of differences between the Bush-Obama and Obama-Trump transitions, the apparent symmetry in effect size might be surprising. While we cannot reject that the alignment effects are symmetric across transitions, we do note that the point estimates are slightly larger for the Obama-Trump transition.



We can combine both transitions to provide visual evidence for the effect of political alignment on cost overruns. We focus on contracts over \$25,000 and estimate an event study around the time of officers’ switch in alignment status. We focus on two windows around the two presidential transitions in our data (2004–2011 for the Bush-Obama transition, and 2012–2019 for the Obama-Trump transition) and estimate the following regression model:

$$y_j = \sum_{s=-3}^{+4} \beta_s \cdot \text{Become aligned}_{I(j)p(j)} \cdot \mathbf{1}[k(j) = s] + \theta_{I(j)p(j)} + \tau_{k(j)p(j)} + X'_j\gamma + \varepsilon_j, \quad (3)$$

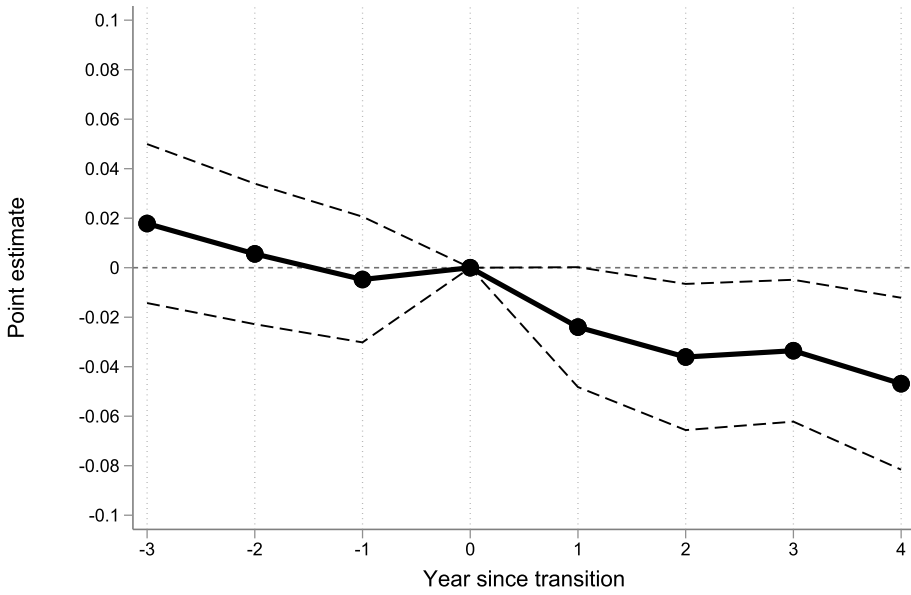
where  $p(j)$  indexes the presidential transition event window in which contract  $j$  was created, and  $k(j)$  indexes the time when the contract was created (i.e., the year relative to the year of the transition).  $\theta_{I(j)p(j)}$  are procurement officer  $\times$  presidential transition fixed effects, and  $\tau_{k(j)p(j)}$  are time  $\times$  presidential transition fixed effects.  $\text{Become aligned}_{I(j)p(j)}$  is an indicator equal to 1 if the officer creating the contract is “treated” during a given transition  $p$ , namely if the officer is misaligned with the party of the president before the transition and becomes aligned after the transition. The coefficients of interest  $\beta_s$  measure the change in cost overruns of treated officers  $s$  years before/after a transition, compared to the change in outcomes of the officers who were aligned before the transition and are misaligned after it. The omitted reference year is the year before the transition.<sup>34</sup> We use the same set of contract-level controls and fixed effects ( $X'_j$ ) as in column 3 of Table IV.

Figure 4, Panel (a) shows the result. We observe a persistent reduction in cost overruns starting from the year of the transition. Importantly, we do not observe significant pre-trends: prior to the switch in alignment status, there is no differential trend in cost overruns between those who would eventually become aligned versus those who would eventually become misaligned. This assuages the concern that the alignment effect might already start materializing in the years before a transition—which could happen if, for instance, officers who would eventually become aligned are more likely to obtain easier contracts towards the end of the previous presidential term.

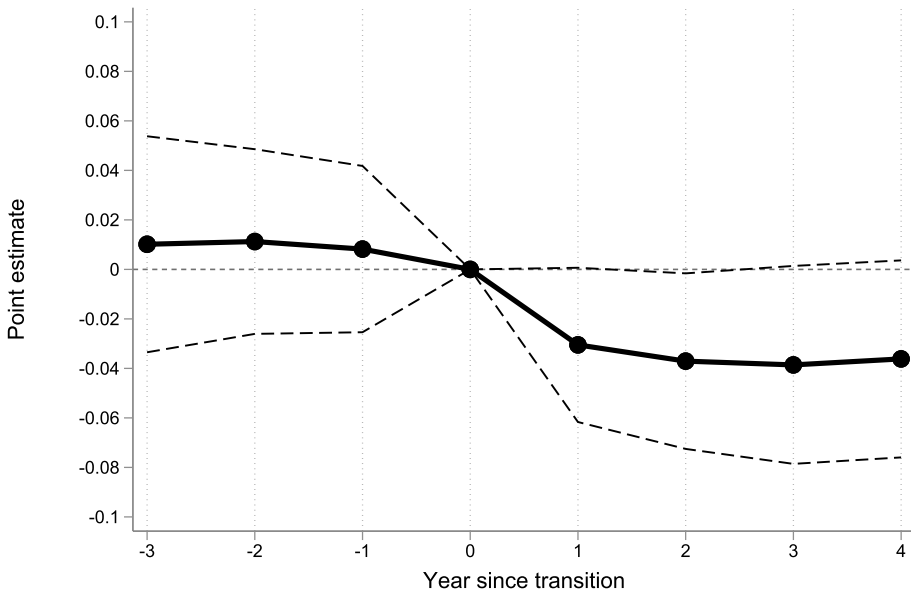
#### 4.4. Political Alignment and Other Procurement Outcomes

In Table VI, we consider a range of additional procurement outcomes that could perhaps offset any cost saving effects of political alignment. We first investigate whether political alignment affects delays. Our measure of delay is constructed in the same fashion as the cost overrun measure in Equation (1). As shown in column 1, political alignment also decreases delays, although the estimate is not statistically significant. In column 2, we focus on complex, “high duration” contracts, as measured by having an above median expected duration ( $\geq 148$  days). Resembling the heterogeneity we observed with respect to cost overruns, we find significant alignment effects concentrated among more complex contracts, for which discretion and individual officer’s effort are likely more relevant.

<sup>34</sup>The majority of contracts created in 2008 and 2016 carry over into the following years (73% and 81%, respectively), and most of them are performed for a greater number of days under the new administration than under the old one (62% and 66%, respectively). In light of this fact, we center the event window in Figure 4 around 2007 and 2015, which means that 2008 and 2016 are classified as the first post-transition years. For this reason, our event-study results are more directly comparable with the specifications relying on the variable “Share politically aligned,” which directly accounts for the fact that contracts signed in 2008 and 2016 are mostly performed under a new administration.



(a) Relative cost overrun



(b) Relative delays

FIGURE 4.—Event study—Cost overrun, delays, and shock in alignment. *Notes:* Estimated  $\beta_s$  coefficients from Equation (3), with 95 percent confidence intervals based on standard errors clustered at the procurement officer-level. The estimating equation includes the same set of contract-level controls and fixed effects as in column 3 of Table IV. In Panel (a), the dependent variable is relative cost overrun and the sample is restricted to contracts with an expected size of at least \$25,000. In Panel (b), the dependent variable is relative delays and the sample is restricted to contracts with an expected above median duration ( $\geq 148$  days).

TABLE VI  
POLITICAL ALIGNMENT AND OTHER PROCUREMENT OUTCOMES.

	(1)	(2)	(3)	(4)	(5)
	Relative delays		Modifications		Contract terminated
			Any	IHS #	
Mean of dep. var	0.424	0.397	0.486	0.714	0.413
<i>Panel A: Political alignment at time of award</i>					
Politically aligned	-0.001 (0.007)	-0.017 (0.006)	-0.009 (0.004)	-0.018 (0.007)	0.008 (0.033)
<i>Panel B: Share of contract duration politically aligned</i>					
Share politically aligned	-0.002 (0.007)	-0.019 (0.007)	-0.008 (0.004)	-0.018 (0.007)	0.022 (0.034)
Year × Month FEs	Yes	Yes	Yes	Yes	Yes
Individual FEs	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes
Sample	Full	High duration	Full	Full	Full
Department × Year FEs	Yes	Yes	Yes	Yes	Yes
Observations	1,074,675	536,661	1,074,675	1,074,675	1,074,675

*Note:* The unit of observation is the contract. *Relative delays* is the difference between the actual contract duration and the expected duration, normalized by the expected duration (see Equation (1)). *Any modifications* is a dummy that is 1 if any modification to the contract was made after contract award. *IHS# modification* denotes the inverse hyperbolic sine transformation of the number of ex post modifications. *Terminated* is a dummy that is 1 if the contract was terminated, rescaled by 100 for legibility. Columns 1 and columns 3–5 show results in the full sample of contracts, while column 2 (High duration) restricts the sample to contract with an above median expected contract duration at time of award (148 days). Controls comprise: *Years of experience fixed effects*, *Log(Contract size in USD)*, *Log(expected duration in days)*, *Log(total contracts created in a given year and quarter)*, *industry (NAICS) fixed effects*, *award type FEs*, *contract pricing FEs*, *product service code FEs*. *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 expected duration in which the procurement officer and the president were from the same party. Standard errors in parentheses, clustered at the procurement officer-level.

Among these contracts, those assigned to an officer who is politically aligned exhibit 1.7% shorter contract durations, corresponding to 4.3% of the average delay.<sup>35</sup> As before, we can visualize the delay effects using an event study. In Figure 4, Panel (b), we re-estimate our event-study specification using relative delays as the dependent variable. Consistent with the results above, we find that procurement officers who become aligned see their contracts completed faster relative to those who become misaligned. Reassuringly, we do not observe significant pre-trends.

We also ask whether political alignment affects the number of ex post modifications that are made to the procurement contract. We focus on in-scope modifications which reflect amendments made within contracts’ original scope. The results in columns 3 and 4 of Table VI imply that contracts overseen by procurement officers who are politically aligned exhibit a lower likelihood and number of ex post modifications. This is consistent with cost overruns and delays being partly due to ex post adjustments.

Finally, in column 5 of Table VI, we examine whether the contract was prematurely terminated. Terminations are rare events in which the contract is terminated either 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).

<sup>35</sup>In Supplemental Material Appendix Table BVIII, we also show the breakdown by quartiles of the initial contract duration.

Given the rare nature of the outcome, we scale the dependent variable by 100 for legibility. Political alignment is associated with a lower likelihood of termination in only one of our specifications, with a small and statistically insignificant point estimate.

Taken together, the evidence in this section suggests that ideological misalignment of individual officers has a nontrivial impact on cost overruns and number of ex post modifications. In addition, complex contracts overseen by a misaligned officer exhibit also greater delays. We conclude that political misalignment is detrimental to contract performance.

## 5. DISCUSSION AND MECHANISMS

In this section, we investigate the possible mechanisms behind the alignment effect that we document above. We consider three possibilities. First, political alignment may be associated with differential task assignment. Ideologically aligned procurement officers might enjoy a lighter workload or be assigned simpler contracts, resulting in higher contract performance.

A second potential explanation is that performance is rewarded less when civil servants are misaligned with the apex of the government. If 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.

A third explanation may be a general “morale effect,” whereby misaligned civil servants are less motivated to exert effort. This channel was succinctly described by [Besley and Ghatak \(2005\)](#), who argued that “the productivity of the bureaucracy will change endogenously if there is a change in the mission due to the principal being replaced [...]. This provides a possible underpinning for the difficulty in reorganizing public sector bureaucracies and a decline in morale during the process of transition” (p. 629).

### 5.1. *Differential Task Assignment*

We investigate whether task assignment varies with political alignment in [Table VII](#). Since procurement officers are specialized in the contracting of specific goods and services, it is a priori unlikely that officers will switch across entirely different types of tasks depending on their political alignment.<sup>36</sup> Nonetheless, however, we can directly test for this possibility using our rich data on contracts and their characteristics. We report results from estimating the specification in [Equation \(2\)](#) using officers’ workload or the characteristics of the contracts that they oversee as dependent variables.

In [column 1](#), we aggregate our contract-level panel to the procurement officer-quarter level, and test whether the number of contracts assigned to a procurement officer varies with political alignment. We do not find that officers enjoy lighter workloads in quarters in which they are politically aligned. This null effect is precisely estimated and suggests that differential workloads are unlikely to explain the higher procurement performance we observe.

To ask whether aligned procurement officers work on different contracts, the analysis in the remaining columns is conducted at the contract level. In [column 2](#), the dependent variable is the (log) initial contract size. As the results show, aligned officers do not work on contracts with lower expected cost at the time of award. Similarly, the estimate in [column 3](#) shows that the expected duration of the contract on which an officer works does

<sup>36</sup>The median procurement officer works on only three different product and service codes in a given year.

TABLE VII  
TASK ASSIGNMENT DOES NOT VARY BY POLITICAL ALIGNMENT.

	(1)	(2)	(3)	(4)	(5)
	Number contracts	Expected		Predicted	
		Contract size	Duration	Overrun	Delay
Mean of dep. var	3.842	9.833	4.707	0.186	0.424
Politically aligned	-0.085 (0.130)	0.011 (0.021)	0.002 (0.017)	-0.000 (0.001)	0.000 (0.002)
Year × Quarter FEs	Yes	Yes	Yes	Yes	Yes
Individual FEs	Yes	Yes	Yes	Yes	Yes
Observations	280,148	1,079,923	1,079,923	1,079,923	1,079,923

Note: Unit of observation in column 1 is the balanced individual-quarter level. Unit of observation in columns 2–5 is the contract level. *Politically aligned* is a dummy that is 1 if the procurement officer and president are from the same party. *Number contracts* is the number of contracts a procurement officer created in a given quarter. *Expected contract size* is the (log) expected size (in USD) of the contract at time of award. *Expected duration* is the (log) expected contract length (in days) at time of award. *Predicted overrun* (*Predicted delay*) is the cost overrun (delay) predicted by regressing our measure of cost overrun (delay) on the full set of contract characteristics: *Log(Contract size in USD)*, *Log(expected duration in days)*, *Log(total contracts created in a given year and quarter)*, Industry FEs, award type FEs, contract pricing FEs, and product service code FEs. Standard errors in parentheses, clustered at the procurement officer-level.

not vary with alignment. These estimates are inconsistent with aligned officers working on contracts that are ex ante less complex.

In addition, we can utilize the full set of contract-level observables to measure contract complexity. In column 4, the dependent variable is the predicted cost overrun of the contract. We predict cost overrun by regressing our measure of relative cost overrun in Equation (1) on the full set of ex ante observable characteristics, that is, expected contract size and duration, fixed effects for industry, product and service type, type of award, and type of contract pricing, as well as the overall number of contracts assigned to the officer in the quarter. For instance, this measure captures the fact that contracts dealing with specific products, or in specific industries, might be more likely to result in overruns. The estimate in column 4 shows that aligned procurement officers do not work on contracts that, based on our rich set of ex ante observables, are on average more likely to result in overruns. In column 5, we repeat the analysis with predicted delays as the dependent variable. Once again, we do not find that procurement officers are assigned to contracts that, based on ex ante observable contract characteristics, are more likely to result in delays.<sup>37</sup>

Finally, we note that the coefficients on *Share politically aligned* in columns 4–6 of Table IV would remain virtually unchanged if we conditioned on officer alignment at the time of contract initiation. This simple observation suggests that differential task assignment between aligned and misaligned procurement officers is unlikely to drive the political alignment effects we uncover. Taken together, our results suggest that differential task assignment is unlikely to be a major driver of alignment effects on contract performance.

In the Supplemental Material, we provide a range of additional tests. In Supplemental Material Appendix Table BX, we rule out that our results are driven by aligned officers

<sup>37</sup>Since our analysis in the previous section yields evidence of stronger alignment effects for high-value and long-duration contracts, we have replicated the analysis in columns 2–5 of Table VII restricting attention to such contracts only. The results provide no evidence to suggest that task assignment varies with political alignment (cf. Supplemental Material Appendix Table BIX).

being more likely to be assigned to mission-critical contracts.<sup>38</sup> In Appendix Table BXI, we further show that procurement officers' political alignment does not predict whether a contract was competed or the number of bidders. Aligned procurement officers are slightly less likely to work with politically aligned suppliers (which we proxy using information on whether the chosen supplier is a minority-owned or disadvantaged women-owned business), suggesting that alignment between procurement officers and suppliers is unlikely to explain the positive alignment effect on performance. We also show that the results remain quantitatively unchanged when including supplier fixed effects, though the sample size declines due to the omission of singleton firms. In sum, we find no evidence to suggest that differential supplier selection drives our findings.<sup>39</sup>

### 5.2. *Promotion Incentives*

We have also investigated whether promotion incentives change with alignment. Career progression of procurement officers is primarily based on a combination of seniority, qualifications, and on-the-job training, although performance that “contributes to achieving the cost goals, schedule goals, and performance goals” may be taken into consideration for promotion decisions (see United States Code 1703(f)(2)). Given the rigid institutional context, it is a priori unlikely that the link between promotion and performance changes systematically with alignment. Nonetheless, we can directly test for this possibility by combining our personnel and procurement data.

To implement this test, we aggregate our contract-level panel to the procurement officer-year 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 three measures of career progression: promotions (defined as an increase in the officer's paygrade), demotions (a decrease in paygrade), and exit from the civil service. The results are reported in Supplemental Material Appendix Table BXII. 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 year, both of which are standardized to have a mean of zero and a standard deviation of 1.

We find no evidence that career progression patterns change markedly with alignment. In particular, officers with greater cost overruns or delays do not appear to be less likely to be promoted, and, importantly, we do not observe that the link between our measures of performance and promotion changes systematically with political alignment. The same is true with respect to demotions and exits from the civil service. Taken together, our results suggest that differential promotion incentives are unlikely to be a major driver of the observed alignment effects.

### 5.3. *Morale Effects*

We now provide evidence suggesting that a morale effect is an important mechanism behind the effect of political alignment on performance. In our context, morale can be shaped by both intrinsic and extrinsic factors. Working for an aligned administration might motivate bureaucrats to perform if bureaucrats have preferences directly over the

<sup>38</sup>We operationalize the notion of how mission-critical a contract is based on the overall share of contracts that a department procures with the same product or service code.

<sup>39</sup>Our results comparing political alignment at the individual level within departments are complementary to Dahlström, Fazekas, and Lewis (2021), who showed that more politicized agencies use more non-competitive procedures.



policies pursued by the government. In addition, better and more frequent interactions between bureaucrats and their aligned superiors might increase their willingness to exert effort.

To provide evidence consistent with the presence of a morale effect, 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. This electronic survey is administered to both full-time and part-time employees of departments and large independent agencies. The mean response rate is 47%.<sup>40</sup> We use data for 2006–2020, for a total of 5,565,930 responses. There are two important limitations to the FEVS. (i) It does not elicit partisanship, and (ii) survey takers remain anonymous. Together, these limitations make it impossible for us to precisely measure ideology for any given respondent. To address this issue, we exploit the fact that there is significant variation in the share of Democrats and Republicans across departments. Similarly, sex and minority status are strongly predictive of partisanship.<sup>41</sup> We proceed by calculating the share of Democrats in each sex × minority-status × department cell in the OPM data. We then use this number as the probability that a FEVS respondent in the same cell identifies as Democrat. We focus on Democrats because they comprise the plurality of civil servants in 90% of cells. We unfortunately do not have sufficient variation in cell composition to separately disentangle effects for Republicans and independents.

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

$$y_i = \beta \cdot Prob. Democrat_i \cdot Democrat President_{T(i)} + \mu_K(i) + \gamma' x_{iT(i)} + \varepsilon_i, \quad (4)$$

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 1.  $Prob. Democrat_i$  is the probability that  $i$  is a Democrat (as opposed to a Republican/Independent), and  $Democrat President_{T(i)}$  denotes an indicator equal to 1 if the president in year  $t = T(i)$  is a Democrat (as opposed to a Republican).  $\mu_K(i)$  are sex × minority × department fixed effects and  $x_{iT(i)}$  are department × year fixed effects.

In Figure 5, we report how civil servants’ self-assessed morale (Panel A) and identification with the mission of their department (Panel B) vary 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.<sup>42</sup> This measures how the attitudes of respondents who are more likely to be Democrat change when they become politically aligned.

Our estimates imply that respondents report higher morale when they are politically aligned with the president (Panel A). For example, they report finding their work more

<sup>40</sup>This number is from the published *Technical Reports* available online for 2008–2019.

<sup>41</sup>In our data, the share of Democrats is 56% among female civil servants but only 43% among men. Similarly, the share of Democrats is 73% among minorities and 40% among non-minority federal employees. The share of Democrats ranges from more than 60% in the Department of Education and in the Department of Housing and Urban Development to 41% in the Department of Agriculture and 38% in the Department of Transportation.

<sup>42</sup>The corresponding regression tables can be found in Supplemental Material Appendix Table BXIII.

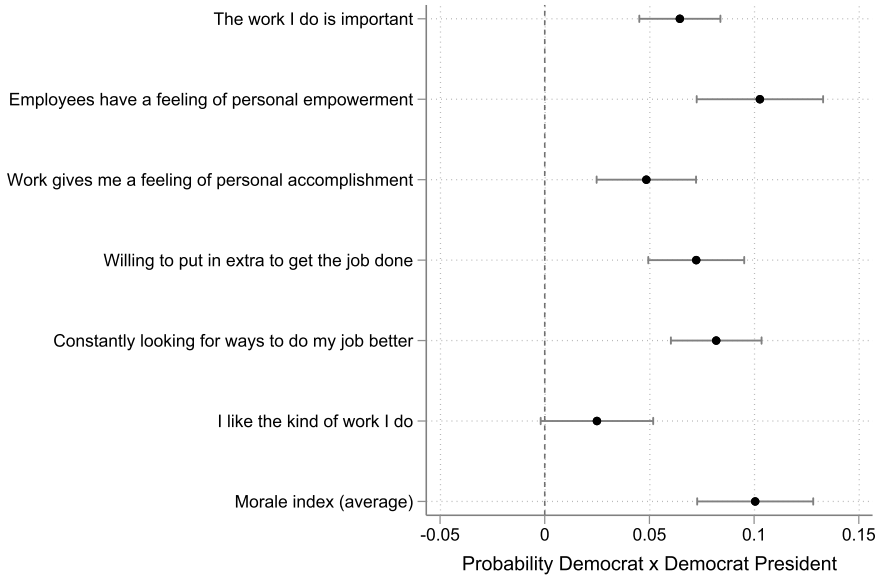
important and being willing to exert more effort. We see similar results across the different measures, and when we use a “morale index,” constructed as the average across individual outcomes. In Panel B, we study the impact of alignment on attitudes towards the organization’s mission. The results suggest that civil servants who have a higher probability to be Democrat are more likely to identify with the mission of their organization when serving under Democratic presidents. The estimates are similar across all measures of identification with the mission. The evidence in Figure 5 thus provides suggestive evidence of a “morale effect” due to political alignment.

To shed further light on the mechanism, Supplemental Material Appendix Table BXIV asks whether the effects on self-reported morale and identification with the organizational mission vary with bureaucrats’ seniority. Interestingly, we find larger morale effects for supervisors, though the difference between supervisors and ordinary bureaucrats is statistically insignificant. Since supervisors tend to occupy higher positions in the organizational hierarchy, one might suspect that they would be more directly affected by political turnover. Finally, morale might be shaped by both intrinsic and extrinsic factors, and our survey questions are likely to capture both. While it is difficult to fully disentangle the relative importance of intrinsic and extrinsic drivers of morale, we can leverage additional questions in the FEVS to provide suggestive evidence that extrinsic factors might also play a role. In Supplemental Material Appendix Figure A10, we show that alignment correlates with reports of more frequent and constructive feedback from supervisors, and with higher trust. It is important to point out, however, that we do not know whether the observed effects are due to changes in worker or supervisor behavior (i.e., aligned workers being more likely to seek out advice versus being provided unsolicited feedback). We further note that the magnitude of the estimates in Appendix Figure A10 is considerably smaller than the reduced-form morale and mission effects in Figure 5.

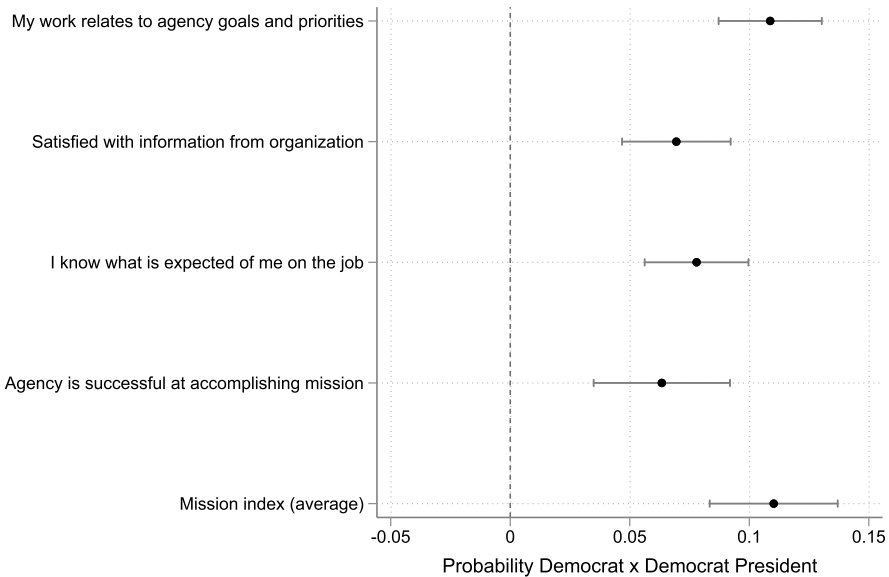
## 6. IMPLICATIONS FOR THEORIES OF THE BUREAUCRACY

We now discuss how our findings relate to extant theoretical work on bureaucracies. Previous research has long recognized the importance of non-pecuniary incentives for motivating agents, especially in public sector organizations (see, e.g., Bénabou and Tirole (2003), Besley and Ghatak (2005), Francois (2000), Prendergast (2007), Delfgaauw and Dur (2010), Dal Bó, Finan, and Rossi (2013), Forand, Ujhelyi, and Ting (2022)). Although theoretically well appreciated, there remain subtle but important questions related to the exact nature of the non-pecuniary motives of bureaucrats. Delfgaauw and Dur (2010) and Dal Bó, Finan, and Rossi (2013) modeled “public sector motivation” as a fixed utility from working for the government. By contrast, in Francois (2000), Besley and Ghatak (2005), and Prendergast (2007), agents derive intrinsic utility from the public sector output they produce, while Forand, Ujhelyi, and Ting (2022) allowed bureaucrats to have policy preferences. Our results on the performance implications of ideological mismatch are not easily rationalized through the lens of models in which bureaucrats and their supervisors only care about working for the government. Our findings are consistent, however, with theories in which agents are, at least in part, motivated by *what* the government produces. This could be because bureaucrats have preferences directly over policies, or because working under an ideologically misaligned administration reduces the marginal benefit from public sector output.

Our empirical work also contains lessons for theories of the internal organization of the bureaucracy. A central conclusion of this literature is that politicians have an incentive to make delegation to and selection of bureaucrats dependent on their type, that is, their



(a) Measures of general morale



(b) Measures of identification with mission

FIGURE 5.—Morale and mission increase with political alignment. *Notes:* Each row reports the regression coefficient of *Probability Democrat*  $\times$  *Democrat President* from Equation (4) for different dependent variables together with 95% confidence intervals, based on standard errors clustered at the Sex  $\times$  Minority  $\times$  Department level. All dependent variables are on the Likert scale (1: Strongly disagree, 5: Strongly agree) and standardized to have mean 0 and standard deviation 1. *Morale index* and *Mission index* are averages of all measures in their respective panel. *Probability Democrat* is the share of OPM civil servants who are registered Democrat in a given sex  $\times$  minority status  $\times$  department cell. The regression table is reported in Supplemental Material Appendix Table BXIII.

expertise and preferences (see, e.g., Epstein and O'Halloran (1994), Bendor, Glazer, and Hammond (2001), Bendor and Meirowitz (2004), Prendergast (2003), Maskin and Tirole (2004), Alesina and Tabellini (2007), Gailmard and Patty (2007), Wiseman (2009)). While ideology-based selection seems to be a good first-order approximation in the upper echelons of the federal bureaucracy, the vast majority of civil servants in the United States do not appear to be selected based on ideological alignment with the current administration. This is true for both incumbents as well as new hires. One potential explanation for this finding is that current civil service rules provide little scope for political interference. Another, complementary explanation is that applicants for civil service positions anticipate serving under multiple administrations with different missions (as in Forand, Ujhelyi, and Ting (2022)). If civil servants anticipate having to work for misaligned administrations, then self-selection may mitigate the cost of mission misalignment in bureaucracies relative to the private sector. Yet, in private sector firms, misaligned workers might be more easily reassigned to different tasks, or they might leave the organization entirely. Our empirical results suggest that both margins of adjustment are very limited in the context of the U.S. civil service. Thus, whether mission (mis)alignment is more important in private- or public-sector organizations remains an open empirical question.<sup>43</sup>

In sum, our findings support the key idea behind theories with intrinsically motivated bureaucrats. Our results imply caution, however, when it comes to assuming that bureaucrats can be neatly selected based on mission alignment. It is precisely politicians' limited ability to achieve alignment with low-level bureaucrats that creates the cost of ideological mismatch that we document in this paper.<sup>44</sup>

## 7. 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 United States. The resulting data set 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 show that presidents 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. Partisan cycles among political appointees are consistent with the use of the spoils system to better align the highest layers of the bureaucracy with the policy of the White House. By contrast, we find a remarkable absence of partisan cycles among career civil servants. Our findings, therefore, suggest that the bulk of the federal government resembles a Weberian bureaucracy, which is largely protected from political interference.

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

<sup>43</sup>Limited control over misaligned bureaucrats also implies that politicians have an incentive to either circumvent the bureaucracy or find other, indirect ways to achieve their goals (see, e.g., Iyer and Mani (2011), Ujhelyi (2014b,a), Moreira and Pérez (2021)).

<sup>44</sup>In independent work, Forand, Ujhelyi, and Ting (2022) developed an equilibrium model with this feature, and used it to study the emergence of partisanship in modern bureaucracies. The predictions of their theory are remarkably consistent with the results above.

and ideological leanings, which can conflict with those of the president. As a consequence, politicians and department heads often need to work with bureaucrats whose personal values are not aligned with the present mission of the organization.

In order to assess the consequences of such misalignments, 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 examine the effect of mission alignment on the performance of procurement officers across nearly all departments of the federal bureaucracy. Strikingly, we find that political misalignment decreases officers' performance, leading to greater cost overruns, ex post modifications, and delays. To the best of our knowledge, these are the first results on the performance implications of ideological misalignment in a textbook bureaucracy.

More speculatively, we provide evidence to suggest that a general morale effect may be an important driver behind our main finding. Taking federal employees' self-reports at face value, bureaucrats who are ideologically misaligned with the White House appear to have lower motivation. Even more speculatively, as more and more organizations embrace a mission-driven focus, our findings may have implications beyond the public sector.

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