

Federal Unionization and Presidential Control of the Bureaucracy

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Prepared for Presentation at the 2011 Annual Meeting of the American Political Science Association, Seattle, WA.

Abstract:

Why do U.S. presidents allow the unionization of federal employees, given that unionization weakens bureaucratic control? We argue that presidents selectively use unionization to “lock in” ideologically like-minded agencies’ current composition, thus preventing future presidents from drastically changing these agencies’ ideological direction. The intuition behind this theory is that unions protect the job security of employees, thereby reducing bureaucratic turnover and stabilizing an agency’s current workforce. Hence, the president strategically supports unionization only in agencies sharing the president’s political leanings. Corroborating the predictions of our model, we find that agencies with fewer unionized employees experience greater ideological volatility—spurred by personnel turnover—that fluctuates with changes in the President’s partisanship. Agencies with a greater proportion of unionized employees, by contrast, experience less personnel turnover during presidential transitions, and they remain more ideologically stable across presidencies.

The growth of public sector unions during the past half-century constitutes an important change in contemporary U.S. politics (Moe 2009). In addition to protecting the job security and benefits of bureaucratic employees (Hays 1995; Frazier 1983; Moe 2006), public sector unions have influenced both electoral outcomes (Johnson and Libecap 1994; Blais et al. 1994; Troy 1994; Moe 2006) and the policy outputs of the bureaucracy (e.g., Freeman and Ichniowski 1988; Lewin et al. 1988; Moe 2009). As a result, the long-term growth of public sector unions has effectively weakened politicians' control over the bureaucracy (Moe 2006).

Given that unions hinder the political control of the bureaucracy, politicians' support for the continued unionization of public employees is puzzling. A voluminous literature has argued that politicians design the bureaucracy (Lewis 2003; Moe 1989; McCubbins et al. 1987) and write legislation (Epstein and O'Halloran 1999; Huber and Shipan 2002) in an effort to exert tighter control over the actions of bureaucrats. But given that unions significantly protect bureaucrats from termination, disciplinary actions, and other adverse personnel decisions (Hays 1995; Frazier 1983), it remains puzzling why politicians ever support bureaucratic unionization.

Bureaucratic unionization is particularly puzzling in the U.S. federal government. As we explain in further detail later in this manuscript, legal precedent and historical anecdote indicate that the president serves as the final arbiter of employee unionization rights in the U.S. federal government (Slater 2004). Since presidents desire tighter political control over administrative agencies (e.g., Wood and Waterman 1991; Moe 1993; Howell and Lewis 2002), one might expect chief executives to use their power over unionization to impede the unionization of bureaucrats. To the contrary, both Democratic and Republican presidents have expanded the coverage of federal employee unions over the past half-century (see Brenner et al. 2009, 268), and many federal agency workforces remain heavily unionized. These developments raise an important research puzzle: Why do presidents willingly permit and even support the continued

unionization of some federal agencies, even though unionization weakens presidential control over bureaucratic personnel?

To resolve this puzzle, we argue that bureaucratic unionization can actually serve the long-term ideological interests of the sitting president by inhibiting future executives' control over the bureaucracy. We develop a formal model in which unionization protects bureaucrats from job termination and disciplinary action, as previous literature has observed. In our model, the job protection provided by unions not only limits the sitting president, but also constrains future presidential administrations from drastically altering the agency's current workforce. By providing job protection for bureaucrats, unionization insulates agency personnel from turnover and thus "locks-in" the current ideological composition of the unionized bureaucracy.

Hence, our model first predicts that unionized agencies exhibit smaller ideological shifts during presidential transitions, due to this "lock-in" effect. A second prediction is that, in equilibrium, a president will selectively support unionization only for agencies whose bureaucrats are ideologically proximate to the president, while not supporting unionization for ideologically distant agencies. The intuition behind this equilibrium strategy is that the president has ideological preferences over bureaucratic politics not only in the present, but also under future presidential administrations. The president therefore prefers to "lock-in" only an agency whose bureaucratic workforce is ideologically proximate, thus protecting the agency from drastic manipulation of personnel by a future president who may have different political preferences.

To empirically test the predictions of our model, we utilize individual-level data from the U.S. Office of Personnel Management's Central Personnel Data File (CPDF), and we estimate the ideal points of federal agencies by analyzing the campaign contributions of each agency's employees. Building on previous research estimating the ideal points of agencies (e.g., Clinton and Lewis 2007), as well as past research using federal campaign contributions as a measure of

one's political ideology (McCarty, Poole, and Rosenthal 2006; Bonica 2011), this method allows us to measure changes in bureaucratic ideal points across time (Table 1 lists these ideal point estimates). The results confirm that presidents are more likely to unionize employees in ideologically proximate agencies, and unionized employees—even when controlling for a range of workplace factors—are significantly less likely to leave their bureaucratic jobs, thus exhibiting lower workforce turnover.

[Table 1 Here]

Finally, confirming the main prediction of our model, we show that unionization influences the stability of agency ideal points. The most heavily unionized agencies exhibit relative ideological stability during the transition from the George H.W. Bush (1989-1992) to Clinton (1993-1996) administrations and again during the transition from the Clinton (1997-2000) to the George W. Bush (2001-2004) administrations. By contrast, non-unionized agencies exhibit more volatile swings in agency ideal points during these presidential transitions, becoming more left-wing under Democratic presidencies and more right-wing under Republicans. As a placebo test, we also verify that such ideal point swings did not occur between Clinton's first (1993-1996) and second (1997-2000) terms, as the ideological preferences of the president did not change.

This manuscript proceeds as follows. First, we describe how our theory builds upon past research concerning the U.S. public bureaucracy and contributes to the study of public sector labor-management relations. Next, we present our formal model and derive three testable predictions concerning federal employee unionization, bureaucratic turnover, and the ideological stability of agencies. We then present individual-level bureaucratic personnel data, confirming that unionization decreases bureaucratic turnover. We also describe our method of estimating

bureaucratic ideal points using data on agency employees' federal campaign contributions. Finally, we present empirical results testing the main predictions of the formal model.

Theories of Bureaucratic Insulation

This section explains how our formal model of strategic unionization builds upon and extends existing theories concerning the political insulation of the bureaucracy.

Putatively, bureaucrats perform the function of implementing policy (Wilson 1989). Yet, in practice, bureaucrats have the ability to *make* policy. First, bureaucrats can implement policies that depart from politicians' wishes, thereby creating policy through noncompliance (Niskanen 1975). Second, as state activities have grown more complex, politicians have granted bureaucrats—with increasing regularity—license over policy-making (Eskridge and Ferejohn 1991; Moe 1997). These opportunities for bureaucratic policy-making suggest that if politicians wish to see their preferred policies executed, they must devise ways to *control* public bureaucrats (though Fiorina (1985) explains when politicians may not desire such control).

Previous scholarship has studied the various control mechanisms utilized by officials across branches of government. For example, legislators employ oversight procedures (McCubbins and Schwartz 1984; Weingast and Moran 1983; Aberbach 1990), legislative details (Epstein and O'Halloran 1999; MacDonald 2010; outside the U.S. context, see Huber and Shipan 2002), and administrative procedures (McCubbins et al. 1987) to control public bureaucrats. Those measures often seek to exert bureaucratic control in the face of opposing Presidential control measures (Moe 1987), which involve the use of structure (Moe 1989; Lewis 2003) and staffing (Lewis 2008) to ensure that public servants abide by executive demands.

In response to these political battles to control the bureaucracy, political actors may try to insulate the bureaucracy from external control and prevent future politicians from hijacking the

direction of an agency's policies (Moe 1989; de Figueiredo 2002; Lewis 2003). The logic behind this strategy is that for any politician, tenure in office remains uncertain and perhaps short-lived. Thus, while a responsive bureaucracy constitutes an attractive political weapon, it can be turned against the interests of its designer once that politician, or her like-minded compatriots, leaves office (Moe 1989). As a result, political actors seek to craft institutional structures in the bureaucracy that prevent future politicians from either using the bureaucracy to their advantage or dismantling the policy infrastructure designed by previous officials (Moe 1989).

In this manuscript, our formal model extends and applies this logic of insulating the bureaucracy to explain presidents' selective unionization of certain agencies' workforces. As we detail in the following section, previous scholars have agreed that the president possesses and exercises significant unilateral authority over the unionization of federal employees within each agency. Thus, one might expect presidents to use this authority to halt all unionization, as collective bargaining agreements protect federal employees from personnel decisions – such as terminations or transfers – that the president uses to gain tighter control over the bureaucracy. But contrary to this expectation, presidents of varying ideological dispositions have enabled the unionization of large portions of the federal bureaucracy. Our model explains this unionization as a politically-motivated strategy to prevent future presidents from altering the composition of certain agencies whose workforces are ideologically proximate to the current president.

Theoretical Issues

Our model illustrates how a sitting chief executive uses federal bureaucratic unionization to influence the partisanship of the bureaucracy under future presidential administrations. The model builds upon four features of federal unions and bureaucratic management that previous

scholars have observed. We describe and justify these four features of our model in this section, and we explain how these four features drive the main theoretical results of our model.

1) *Presidential Control of Union Formation.* In our model, the president can influence the level of bureaucratic unionization. Scholars of public administration have repeatedly noted that the U.S. president serves as the ultimate arbiter of whether or not employees in each federal bureaucracy can form a collective bargaining unit (Thompson 2007). Both the president's powers of unilateral action, as described by Moe and Howell (1999), as well the legal framework of U.S. federal labor-management relations, form the basis of this presidential power, which is exercised without the consent of or interference by Congress. The president has the power to not only determine the legality and scope of collective bargaining for each federal agency, as established by Executive Order 10988, but also to decide which employees within each agency – even at low levels of the federal bureaucracy – are eligible for unionization (Thompson 2007).

Some recent well-known examples illustrate how presidents exercise their unilateral control over union formation. For instance, in 2002, George W. Bush issued Executive Order 13252 to prohibit employees housed in certain bureaus of the Department of Justice—including U.S. Attorneys Offices and the Department's Criminal Division—from collective bargaining (Slater 2004, 316). Second, leaning on the Constitution's vague definition of executive powers, presidents have interpreted federal labor-relations statutes broadly and creatively in order to control union coverage within federal agencies. A typical example occurred in 2002, when the Bush administration denied collective bargaining privileges to employees in the Social Security Administration. The administration justified its decision by citing a provision of the Federal Service Labor Management Relations Act § 7112(b)(6) stipulating that federal workers can be denied inclusion in a collective bargaining unit due to national security concerns. Yet, as Slater (2004, 216) notes, the employees who were denied union coverage performed work that did not

even necessitate a security clearance. Such anecdotes highlight the president's broad latitude to determine whether non-union employees may form a collective bargaining unit.

In addition to this unilateral control through Executive Order, presidents also maintain control over federal unionization via the management of personnel in the Federal Labor Relations Authority (FLRA). The FLRA bears responsibility for governing federal collective bargaining (Frasier 1985, 485). The president appoints, with Senate approval, the Chair of the FLRA, along with its members and General Counsel (Frasier 1985, 485). As well, presidents maintain the authority to remove members of the FLRA, given sufficient reason (Frasier 1985, 485). The FLRA, in turn, carries out a variety of judicial and administrative activities. Those activities range from determining an employee's collective bargaining eligibility to deciding on the negotiability of contractual issues to carrying out union representation elections. Thus, control over FLRA personnel decisions offers an additional tool through which presidents can determine the level of unionization in a federal agency.

Our formal model incorporates this presidential control over union formation in the following way. In our model, the first-period executive chooses the level of bureaucratic unionization, u , during the first period, and this choice remains permanent for the remainder of the game. Hence, this executive must balance the anticipated future benefits and drawbacks of unionization when strategically choosing u . This feature of our model drives the model's intuition that the executive may use unionization to influence not just today's bureaucratic politics, but also the bureaucracy under future presidential administrations.

2) *Presidential Control over Standards of Work Quality:* In our model, the executive controls bureaucratic quality by enforcing a minimum threshold of quality that employees must meet in order to avoid being fired. This modeling feature captures past scholars' observation that presidents can set quality standards that federal employees must satisfy in order to retain their

posts, and presidents actively seek to retain and exercise this authority (Cayer 1996, 90). For example, in 2011, several federal air traffic controllers were fired summarily after the FAA revealed they had inadvertently fallen asleep on their posts while on duty (Marsh and Crawley 2011). In defending the firings, President Barack Obama argued that “[the air traffic controllers] who are falling asleep on the job, that’s unacceptable” (Stark and Spring 2011).

To model this form of executive control over bureaucratic quality, we assume that the executive chooses a minimum standard of bureaucratic quality, m . A bureaucrat’s individual quality is exogenously determined, and any bureaucrat whose quality falls below this threshold is automatically fired. Hence, in our model, federal employees can be fired only for reasons of work quality. The executive prefers high-quality employees, *ceteris paribus*, but, as will be evident in the model, a bureaucrat’s policy preferences affect the executive’s strategy as well. The executive is more motivated to retain a bureaucrat whose policy preferences closely resemble those of the executive. This feature of the model creates situations in which an executive has a political interest in protecting bureaucrats who are ideologically sympathetic. But the executive must trade-off bureaucratic quality—by setting a lower standard of bureaucratic quality, m —in order to retain these ideologically sympathetic bureaucrats.

3) Union Protection of Bureaucratic Workers: In our model, unionization protects workers from being fired by the executive. This modeling feature reflects past scholars’ observation that although federal unions lack the ability to directly bargain over wages and benefits (Frazier 1985; Cayer 1996, 154), unions can strongly influence the job security of their members. Existing literature has focused on two ways that federal unions protect their members’ job security. First, unions’ collective bargaining agreements typically create intricate grievance procedures to protect their members’ interests in employment matters (Frazier 1985, 496). Such grievance procedures protect employees who face termination or other disciplinary action

because of their poor job performance (Wills 2006). Second, federal unions collectively bargain over the technologies that employees use to carry out work duties (Frazier 1985, 493). Such bargaining can serve to shelter employees with outmoded job skills, thus creating, as Donahue (2008) describes, a public sector refuge for workers with uncompetitive skills.

An illustrative example is the role of union officials in protecting air traffic workers from being fired in 2007. Much like the 2011 episode described earlier, a government investigation in 2007 revealed that federal air traffic controllers at Dallas-Fort Worth International Airport had committed serious, repeated errors that jeopardized travelers' safety (Associated Press 2007). However, in this case, union officials protected these air traffic workers from punishment by arguing that on-duty managers were responsible for the errors, and a shortage of workers at DFW airport was partly to blame (Associated Press 2007). As of 2011, continuing coverage of the event indicated that the air traffic controllers involved in the incident had not been fired (Associated Press 2011).

Our formal model incorporates this protective role of unions in the following way. We assume that the executive's minimum standard for bureaucratic quality, m , cannot exceed $1-u$, where u is the level of unionization. Hence, a higher level of unionization imposes greater constraints on the executive's choice of m , thus hindering the executive's ability to fire workers for their poor quality.

4) *The Permanency of Federal Unionization.* Once a presidential administration has overseen the creation of a new collective bargaining unit, thereby unionizing employees in the unit, subsequent presidents cannot unilaterally reverse this creation. Rather, a subsequent presidential administration can only influence the union status of newly created personnel groups and non-unionized workers. Barring highly extraordinary circumstances, existing bargaining units cannot be decertified by the president, and collective bargaining agreements cannot be

violated. Given that the lifespan of most federal unions and many collective bargaining agreements exceeds the four years of a presidential term, most unionization decisions therefore have a binding effect upon subsequent presidential administrations.

An example of highly extraordinary circumstances warranting union decertification occurred in 1981. The Reagan administration was able to decertify the Professional Air Traffic Controllers Organization (PATCO) only after PATCO violated the labor agreement by pursuing an illegal workers' strike. Without such extraordinary cause, as Frazier (1985) explains, presidents cannot unilaterally decertify unions because federal employees can petition federal courts if they believe labor-relations statutes have been violated. If a federal court rules in favor of the employees, then the President must restore the collective bargaining rights of the employees. Hence, the legal environment of federal labor relations is an exception to the usual practice of presidential power in which a president may benefit from acting illegally—in order to secure an immediate gain—even if the courts subsequently reverse such actions (Howell 2003). In the legal environment of federal unionization, a president would not benefit from illegally decertifying a union, as the court could retroactively restore employees' collective bargaining rights and essentially undo any short-term advantage to union-busting activity. For this reason, presidential attempts to decertify existing federal unions without cause are exceedingly rare.

Our formal model incorporates the binding effect of unionization on subsequent presidential administrations in the following way. In our model, the first-period president's choice of unionization level, u , constrains the second-period president's choice of m , the minimum standard of bureaucrat quality; as explained earlier, we assume that m , cannot exceed $1-u$. Hence, the first-period president can use unionization policy to limit a future president's ability to control and alter the bureaucracy. This modeling feature drives our model's main result that a president may strategically unionize a bureaucratic agency in order to constrain future

presidents from drastically altering the agency, thereby preserving the current ideological composition of that agency.

Having explained and justified the four important theoretical features of our model, we present the model formally, and we derive and explain three testable comparative static predictions of the model.

The Model

Players and Ideal Points: There are two executives who each hold office for one period: Executive L has an ideal point of $x_L=0$, and executive R has an ideal point of $x_R=1$. Without loss of generality, we assume that the left-wing executive, L, holds office during period 1, while the right-wing executive, R, holds office in period 2.

There are two employees, denoted as A and B . In period 1, employee A works as the bureaucrat in office. Employee B replaces employee A as the bureaucrat if either A voluntarily exits after period 1, or A is fired due to incompetence. Employee A 's ideal point is $x_A \in [0,1]$, and this ideal point is publicly known by all players. Employee B 's ideal point is randomly chosen by Nature from the distribution: $x_B \sim U[0,1]$. Additionally, the quality of each employee is randomly and independently drawn by Nature from the distribution: $q_A, q_B \sim U[0,1]$.

Strategies: In period 1, executive L holds office and chooses the level of union protection, $u \in [0,1]$. In period 2, executive R takes office and chooses the minimum acceptable level of bureaucratic quality, $m \in [0, (1-u)]$. If employee A 's quality, q_A , falls below this minimum threshold, m , then A is automatically fired, and employee B becomes the bureaucrat for period 2. Hence, a higher level of union protection effectively hinders the executive from firing low-quality bureaucrats.

Employee A makes a strategic choice as well. After period 1, A chooses whether to *stay* or *exit* the bureaucratic workforce. If A exits, then B automatically becomes the period 2 bureaucrat, and R 's choice of m becomes moot.

Utility functions: For either of the executives, $e \in \{L, R\}$, executive e 's utility payoff is:

$$U_e = q_i - |x_i - x_e|,$$

where $i \in \{A, B\}$ denotes the employee who holds office in period 2, and q_i denotes i 's quality.

Informally, this utility function states that the executive's payoff consists of the bureaucrat's quality, minus the distance of the bureaucrat's ideal point from the executive's ideal point. Hence, the executive prefers a bureaucrat whose ideal point is closer to her own.

Employee A 's payoff depends upon his employment status during period 2. If A *exits* the bureaucratic workforce, then he earns a private wage of $w \in (0,1)$, which is exogenously determined. If A *stays* to serve as the bureaucrat during period 2, he receives a payoff of 1. But if A *stays* and is subsequently fired for low quality, then he receives a payoff of zero. Formally, then, A 's utility function is:

$$U_A = \left\{ \begin{array}{l} w, \quad \text{if } A \text{ exits;} \\ 0, \quad \text{otherwise.} \end{array} \right\} + \left\{ \begin{array}{l} 1, \quad \text{if } A \text{ stays and } q_A \geq m; \\ 0, \quad \text{otherwise.} \end{array} \right\}$$

Hence, by staying in the bureaucratic workforce, A risks being fired by executive R , but this risk can be reduced by union protection.

Sequence of Play: Formally, the sequence of play is as follows:

1. Nature determines A 's quality, $q_A \sim U[0,1]$, which is privately revealed to A .
2. L chooses the level of union protection, $u \in [0,1]$.
3. Employee A chooses whether to *exit* or *stay* in the bureaucracy.
4. R chooses the minimum acceptable bureaucratic quality, $m \in [0, (1-u)]$.
5. If A *stays* and $q_A < m$, then A is fired and is replaced by employee B . Nature determines B 's ideal point and quality from the distribution: $x_B, q_B \sim U[0,1]$.

Results

This section presents the players' strategies in SPNE in *Lemmas A* through *C*.

Propositions 1 through 3 then use these SPNE results to derive three testable comparative static predictions. We describe each of these results in informal terms and discuss the underlying theoretical intuition behind the comparative statics. Formal proofs appear in Appendix A.

Lemma A: *R's equilibrium choice of m is: $m^* = \min\{(1 - x_A), (1 - u)\}$*

Lemma A states that the second-period executive, *R*, exhibits political bias when choosing m , the minimum acceptable level of bureaucratic quality. Specifically, executive *R* demands a lower standard of quality when the current bureaucrat, *A*, is ideologically closer to her. But this choice of m is constrained by the first-period executive *L*'s choice of unionization policy, u .

The intuition behind *Lemma A* is as follows. Executive *R* exhibits political bias when choosing m because executive *R* prefers to retain a right-wing bureaucrat, even if doing so requires sacrificing bureaucratic quality. But executive *R* is willing to retain a left-wing bureaucrat only if this bureaucrat's quality is exceptionally high, thus compensating for his ideological opposition to the executive. Consequently, executive *R* chooses the quality threshold m with this political bias in mind.

Lemma B: *A chooses to exit the bureaucracy iff $q_A < \min\{(1 - x_A), (1 - u)\}$ and stays otherwise.*

Lemma B states that bureaucrat *A* chooses to voluntarily leave the bureaucratic workforce and take private employment if his quality, q_A , is too low. Note that bureaucrat *A* has perfect information about his own quality and makes his employment decision accordingly. The intuition behind this *Lemma B* result is straightforward: The bureaucrat anticipates executive *R*'s choice of m in period 2 and can thereby anticipate whether he will be fired for poor quality. If bureaucrat *A* anticipates being fired in period 2, then he preemptively chooses to *exit* in order to

take the private wage, w . Hence, actual firings never occur on the equilibrium path, but the threat of potentially being fired induces voluntary *exit* by the bureaucrat.

Proposition 1 (Bureaucrat Turnover): *The probability that bureaucrat A exits is weakly decreasing along the level of unionization, u .*

Proposition 1 states that employee turnover is less likely to occur when the level of union protection is higher. That is, the first-period bureaucrat is more likely to *stay* if the bureaucracy is highly unionized. The intuition behind this result is that unionization constrains the period 2 executive's ability to fire the bureaucrat for poor quality. With this increased job security, the bureaucrat thus finds remaining in the bureaucratic workforce to be a more attractive option; hence, the bureaucrat is less likely to voluntarily *exit*. Therefore, this *Proposition 1* result directly follows from our formal model's setup, whereby unionization directly limits the ability of the employer to terminate low-quality workers in the future.

Lemma C: *L's choice of unionization policy, u , is:*

$$u^* = \begin{cases} 1 - x_A, & \text{if } x_A < \frac{1}{2}; \\ 0, & \text{if } x_A \geq \frac{1}{2}. \end{cases}$$

Proposition 2 (Unionization): *In equilibrium, the level of unionization, u^* , is weakly decreasing along x_A , the ideological distance between the bureaucrat A and executive L.*

Lemma C and *Proposition 2* state that the executive chooses more union protection when the period 1 bureaucrat is ideologically closer to her; she chooses less unionization when the bureaucrat is ideologically further away. Hence, *Proposition 2* predicts that the executive will exhibit a political bias when choosing the unionization level of bureaucrats. Specifically, unionization is targeted to bureaucrats who are more ideologically proximate to the executive.

The intuition behind the *Proposition 2* result is as follows. Unionization reduces bureaucratic turnover (*Proposition 1*), and the executive prefers to reduce the turnover of

bureaucrats who share her ideology. The executive has preferences over policy outcomes in future periods when she will no longer be in office, and manipulating the future personnel composition of the bureaucracy allows her to influence these future policy outcomes. Hence, the executive uses her control over unionization to discourage the turnover of ideologically proximate bureaucrats while increasing the turnover of ideologically opposed bureaucrats. This result explains why executives may have a political incentive to unionize some bureaucrats, even if unionization inefficiently protects low-quality employees.

Proposition 3 (Change in Bureaucratic Ideal Point): *If Bureaucrat A is left-leaning ($x_A < 0.5$), then the expected change in the bureaucrat's ideal point from period 1 to period 2 is weakly decreasing along unionization level, u .*

Proposition 3 states that unionization reduces the likelihood that a left-wing bureaucrat is replaced by a right-wing bureaucrat in period 2. Hence, unionization brings about ideological stability in the bureaucracy by reducing the expected change in bureaucratic ideology from period 1 to period 2. For this reason, the left-leaning first-period executive, L , uses unionization to strategically retain left-wing bureaucratic personnel under the future executive's term.

The driving intuition behind the Proposition 3 result is as follows. A left-wing bureaucrat with high union protection is unlikely to exit the public workforce; hence, he is very unlikely to be replaced by a right-wing bureaucrat. By contrast, a left-wing bureaucrat with lower union protection is more likely to exit and therefore be replaced by bureaucrat B during period 2; there is some chance that this replacement bureaucrat, B , is right-wing, so the expected change in bureaucratic ideal point between period 1 and period 2 is higher when union protection is low.

Note that this comparative static result in Proposition 3 does not apply when the first-period bureaucrat, A , is right-wing ($x_A > 0.5$). The first-period executive, L , always chooses a policy of no unionization when the bureaucrat A is ideologically opposed, as demonstrated in Proposition 1. Hence, the use of unionization as an ideologically-stabilizing instrument of

bureaucratic control applies only for a left-wing bureaucrat who is ideologically aligned with the left-wing executive.

Test of Proposition 1: Unionization and Turnover

Proposition 1 of our formal model predicts that unionized bureaucrats are less likely to leave the public workforce. To empirically examine the influence of unionization on employee turnover, we analyze the effect of unionization on both individual employee turnover and overall agency turnover. All personnel information come from an exhaustive data set containing all records in the CPDF for employees who entered federal service between 1974 and 2007, and who do not work in sensitive positions or agencies ($N = 37,123,576$). For each year, these data contain information about an employee's agency of employment, occupation, pay, duty station, and collective bargaining coverage.

[Table 2 Here]

In our analysis of individual employee turnover, we construct a dependent variable that identifies when an employee exits the agency in which she is currently employed. This binary indicator takes a value of one when an employee either leaves her current agency to work in a different agency or ceases employment in the federal government. Given that we cannot infer such exit behavior in the final year of our data set, our analysis covers the years 1974 to 2006 ($n = 35,926,852$). We model an employee's exit from her incumbent agency by estimating a logistic model that regresses an employee's turnover onto her union membership, occupational category, years of federal employment, and log inflation adjusted pay as independent variables. Table 2 presents results of this model. The model predicts turnover well, accurately classifying employee exits in 88.6% of all cases when using a predicted probability cutoff of 0.5. Additionally, the coefficient estimate for union membership is statistically significant and negative.

The analysis of aggregate data corroborates these results. To estimate the effect of unionization on aggregate agency turnover, we calculate the rate of turnover in agencies for which we possess ideal point estimates. We then measure the influence of agency unionization on turnover, controlling for other potential determinants of personnel flux. For each presidential term beginning in 1989 and concluding in 2006, we define the rate of turnover as the total employees exiting a given agency, divided by the total number of employees in that agency over the same four year time period. The median value of this variable is 0.09; the variable ranges from a minimum value of 0.05 to a maximum value of 0.24, and its inter-quartile range (IQR) stretches from the first quartile of 0.07 to the third quartile of 0.11.

We model this rate of turnover using a set of predictors measuring salient features of an agency's workforce. The main predictor variable, reflecting Proposition 1, is the proportion of an agency's workforce that is covered by a collective bargaining agreement. This variable ranges from 0 to 0.79; the distribution of the variable centers on a median of 0.56 and the IQR extends from 0.36 to 0.67. In addition to the proportion of unionized employees in an agency, we include predictors indicating the percent of agency employees performing occupations classified as, respectively, technical (Median = 0.10, IQR = [0.07, 0.15]), administrative (Median = 0.42, IQR = [0.26, 0.59]), blue collar (Median = 0.003, IQR = [0.0002, 0.02]), clerical (Median = 0.07, IQR = [0.04, 0.11]), and professional (Median = 0.26, IQR = [0.15, 0.42]). As well, using an alternative version of the CPDF that provides information on employee education and appointment status from 1973 to 1997, we calculate the proportion of each agency's employees who hold advanced educational credentials (Bachelor, Master, Professional, and Doctoral Degrees) over that time period. Most agencies contain few individuals with doctoral degrees (Median = 0.02, IQR = [0.007, 0.03]) or professional degrees (Median = 0.03, IQR = [0.02, 0.09]), though bachelors (Median = 0.17, IQR = [0.13, 0.23]) and masters (Median = 0.08, IQR =

[0.05, 0.12]) degrees are relatively common. Using these variables, we estimate a least-squares model that captures the marginal impact of unionization on employee turnover.

[Table 3 Here]

Table 3 illustrates that the proportion of unionized employees in an agency is the strongest predictor of employee turnover. A simple model containing only this unionization variable explains 10% of the variation in turnover rates. Moreover, the relationship between unionization and turnover supports Proposition 1, predicting that unionization decreases turnover. As the plots in Figure 1 illustrate, the rate of employee turnover declines significantly with union coverage, dropping by roughly five percentage points over the range of the data. Adding covariates to the model increases both the absolute magnitude of the estimated model coefficient and the precision of that estimate.

[Figure 1 Here]

Test of Proposition 2: The Strategic Unionization of Ideologically Proximate Agencies

In which agencies is the president relatively more or less likely to support unionization? Proposition 2 of our formal model predicts that in equilibrium, the president is more willing to support unionization in agencies that are ideologically closer to the president. Empirical testing of this prediction requires estimates of bureaucratic ideal points across agencies and across time.

Prior to the work of Clinton and Lewis (2007), comparable estimates of bureaucratic policy preferences across a broad range of agencies did not exist. Although scholars had estimated agency ideal points using either the policy preferences of the president who appointed each bureaucrat (Cohen 1986), bureaucrats' publicly announced views (Bertelli and Grose 2006), or bureaucrats' votes within a single agency (Snyder and Weingast 2000), Clinton and Lewis (2007) advanced the literature by administering a survey asking 37 experts whether each of 82

agencies had tended—between 1988 and 2005—to be liberal or conservative. These methods produced ideal point estimates that are comparable across agencies for a single period of time.

In order to produce agency ideal points that are also comparable across time, we borrow from and extend the work of McCarty, Poole and Rosenthal (2006) and Bonica (2011) by taking advantage of federal campaign contributions data to estimate contributors' ideology.

Specifically, we track the campaign contributions made by each agency's bureaucrats over the time period covering the administrations of George H.W. Bush, Bill Clinton, and George W. Bush. When these campaign contributions are given to incumbent legislators or to the president, we use the recipients' Common Space DW-NOMINATE scores to estimate the ideological preferences of the agency's personnel. As we explain below, our estimates have face validity: agency Common Space scores correlate positively with the agency preferences estimated by the Clinton and Lewis (2007) survey, and agencies significantly shift in the direction of a new president's ideology. Before discussing these validity checks, however, we first discuss our method of calculating these estimates in greater detail.

Calculating Agency Common Space Scores: We use federal bureaucrats' campaign contributions to specific politicians as a means of estimating agency ideology. This method is founded on two assumptions. First, we assume that a campaign contribution to a specific politician represents a sincere expression of one's political preferences, rather than a strategic calculation that conflicts with one's sincere political attitudes (Ansolabehere et al. 2003; cf. Gordon et al. 2007). This assumption is empirically supported by Gimpel, Lee, and Pearson-Merkowitz (2008), who find evidence that out-of-district campaign contributions are targeted to candidates who share the policy preferences of the contributors. Similarly, the findings of Fuchs, Adler, and Mitchell (2000) and Mutz (1995) suggest that individuals make contributions to candidates whom they wish to see elected.

Second, as the size of a campaign contribution varies widely and correlates with the donor's income, we also assume that contributions from upper-level bureaucrats, who wield more influence on agency policy, are typically larger than contributions from rank-and-file agency employees. This assumption is supported by Ansolabehere et al. (2003), who report that various measures of income correlate strongly with political contributions. Our use of this assumption implies that our agency ideal point estimates are more heavily weighted toward upper-level bureaucrats, who typically wield more influence on policy within agencies.

Given these assumptions, the use of campaign contributions to estimate bureaucratic ideology has two advantages. First, many contributions are given to politicians who already hold an elected federal office and therefore have a Common Space DW-NOMINATE score. Hence, under the assumption that a contribution generally represents a sincere political endorsement of a candidate, we can recover estimated ideological affinities from contributors' behavior. Second, as bureaucrats are generally free to make contributions based upon their personal political preferences, estimates of agency ideal points using contributions are less likely to reflect strategic institutional position-taking or other calculated behavior by the agency.

We estimate an agency's Common Space score during each session of Congress using the method developed by McCarty, Poole, and Rosenthal (2006). First, we identify all individuals who: 1) contributed at least \$200 to an incumbent elected federal office-holder or to the office-holder's PAC; and 2) self-identify as an employee of a US federal agency. Next, we identify the Common Space score during the current session of Congress for each office-holder who received such campaign contributions from agency employees. Finally, for each individual agency, we calculate the mean Common Space score of the incumbent politicians who received contributions from the agency's employees, weighted by the dollar amount of each contribution. Hence, larger

contributions, which are more likely to come from higher-paid, upper-level bureaucrats, are weighted more heavily.

Table 1 displays our Common Space ideal point estimates for all agencies included in the data for our Proposition 2 and 3 tests. The Common Space scores range from -1 (most liberal) to +1 (most conservative). In this Table, many agencies popularly perceived to be liberal, such as the Equal Employment Opportunity Commission and the National Science Foundation, have consistently left-wing ideal points across all presidencies. Other, more politicized agencies, such as the Department of Justice, the Small Business Administration, and the Department of Labor, exhibit significant ideological volatility across presidential administrations: These agencies have left-wing ideal points during Democratic presidencies and relatively more right-wing ideal points during Republican presidencies.

These patterns therefore reveal that not all agencies exhibit the same uniform swings during presidential transitions. Some agencies maintain a relatively stable ideology across time, while others exhibit more ideological volatility, shifting in line with the partisanship of the president. As a result, the relative ideological ranking of agencies can change significantly from one presidential administration to the next.

The Online Appendix of this manuscript contains further and more detailed validity tests of our agency ideal point estimates. First, we show that, overall, agencies are more right-wing under the George H.W. Bush (Figure App.1) and George W. Bush (Figure App.3) administrations, while the distribution of agency ideal points is generally more left-wing under the Clinton (Figure App.2) and Obama (Figure App.4) presidencies. Second, in Figure App.5, we show that agencies created under periods of unified Democratic government exhibit generally more liberal ideological scores than agencies created during all other periods of time.

As a final validity test, Figure App.6 compares our agency ideal point estimates to the Clinton-Lewis (2007) estimates of agency policy preferences. The Clinton-Lewis (2007) survey respondents were asked to assess agencies' overall political tendencies during the period 1988-2005. Hence, we compare the Clinton-Lewis estimates to our agency ideal point scores, calculated using campaign contributions made during Congresses 101-109 (covering 1989 to 2006). Figure App. 6 reveals a significantly positive correlation between the two sets of agency ideology estimates, suggesting general agreement between the two methods.

Agency Ideal Points and Unionization. Having estimated bureaucratic ideal points across agencies and across time, the regressions in Table 4 test the prediction, from Proposition 2, that the president is more likely to favor unionization in agencies that are ideologically closer to the president. These models predict the change in agency unionization, calculated as the percentage change in unionized employees among non-professional employees (as explained by Lewis 2008), from time t to time $t+1$. Our independent variable in these models is the absolute difference between the president's and the agency's ideal point. We estimate this model for the Clinton and Bush administrations both separately and in a pooled data set, and Figure 2 plots the underlying data for each of these regressions. In each OLS model, observations are weighted by the number of employees in each agency.

[Table 4 Here]

The Table 4 model estimates and Figure 2 plots reveal that during each presidential administration, agencies that are ideologically further away from the president are less likely to unionize; by contrast, ideologically proximate agencies exhibit higher changes in their unionization rate. These results significantly corroborate the prediction of Proposition 2. As discussed in the *Theoretical Issues* section, a presidential administration generally has opportunities to influence the rate of unionization within many agencies, due to the frequent

expansion of agency workforces and creation of new bureaucratic employee groups. Although we cannot precisely measure the number of opportunities each president has to influence unionization rates, our overall results are strongly consistent with our formal model's prediction that the president strategically supports unionization only within ideologically proximate agencies, whereas ideologically distant agencies generally exhibit declines in their unionization rates.

[Figure 2 Here]

Test of Proposition 3: Unionization's Effect on Ideological Stability

In our model, strategic unionization is motivated, as the previous results suggest, by the president's interest in protecting like-minded agencies from being altered by future presidential administrations. The logic behind this strategy, as Proposition 3 states, is that heavily unionized agencies are less susceptible to ideal point changes during presidential transitions. The intuition behind Proposition 3 is that during administration transitions, unionized agencies are less ideologically volatile than non-unionized agencies because unionization reduces workforce turnover by protecting bureaucrats' job security.

To test Proposition 3, we again utilize the agency ideal point estimates derived from bureaucratic campaign contributions. Specifically, the dependent variable in our analysis is the change in an agency's ideal point from time period t to time period $t + 1$, with time periods described below. The independent variable is the proportion of unionized employees in the agency at time period t . Table 5 estimates this basic model for three separate time periods.

[Table 5 Here]

First, we calculate each agency's change in ideal point during the transition from the George H.W. Bush (1989-1992) to the Clinton (1993-1996) administrations. We regress this

change in ideal point onto the agency's unionization rate. The left column of Table 5 presents estimates of this agency-level regression. Second, the middle column of Table 5 presents a similar regression using ideal point changes during the transition from the Clinton (1997-2000) to the George W. Bush (2001-2004) administrations.

Overall, results reported in Table 5 support hypotheses derived from Proposition 3. Federal agencies became significantly more liberal under Clinton's first term than they had been under George H.W. Bush (Model 1), but this leftward shift was mitigated in heavily unionized agencies. In fact, the results suggest that the most unionized agencies experienced no significant shift in ideal points during the transition to the Clinton presidency. The left plot in Figure 3 displays this relationship graphically. The middle column of Table 5 presents analogous findings for the transition from Clinton to George W. Bush. Agencies became more conservative under the Bush administration (2001-2004) than they had been under Clinton (1997-2000), but this rightward shift in agency ideology was especially pronounced for less unionized agencies. Heavily unionized agencies exhibited no significant shift during this presidential transition. The middle plot in Figure 3 depicts the agency-level data points that drive this result.

[Figure 3 Here]

Finally, as a placebo test, we examine the relationship between unionization and agency ideology changes between the first and second terms of the Clinton administration, when the executive branch did not change partisan control. The expectation is that this placebo test will produce a null finding for the effect of unionization on ideal point changes, as these time period do not constitute a presidential transition.

This placebo test is presented in the right column of Table 5. For the placebo test, we regress the change in agency ideology from the first (1993-1996) to second (1997-2000) Clinton terms onto agency unionization rate. The model estimates reveal that agencies became slightly

more conservative overall during this time period. But agency unionization rate does not significantly affect this ideal point shift, and the magnitude of the unionization rate coefficient is close to zero. Hence, this placebo test provides support for the validity of our main empirical tests of Proposition 3.

Discussion

Controlling bureaucrats is a central challenge for politicians, and it is especially so for presidents charged with managing the nation's increasingly complex and immense administrative apparatus (Moe 1987, 1997). Recognizing this challenge, the willingness of U.S. Presidents to countenance and facilitate the unionization of federal employees may initially seem perplexing. As unionization impedes presidential control of the bureaucracy, one would expect presidents to vigorously resist unionization. Nevertheless, presidents have allowed unionization across a diverse body of agencies in the U.S. federal government over the past half-century.

We have presented a theoretical model that addresses this puzzle. Our model explains Presidents' openness to unionization as resulting from a strategic, forward-looking decision: Sitting presidents, at the cost of present-day administrative flexibility, use unionization to insulate like-minded agencies from future presidents' efforts to alter those agencies' ideological compositions. Unionization serves in this manner because it reduces bureaucratic turnover, thus essentially "locking-in" the current ideological preferences of unionized bureaucrats. Hence, presidents will only use this unionization strategy for agencies that are currently ideologically close to the president's own preferences.

Our empirical analyses corroborate the predictions derived from this formal model. First, we show that unionization indeed reduces bureaucratic turnover, both at the individual level and at the aggregated agency level. Second, perhaps in recognition of this effect, we find that

presidents are more willing to sustain and facilitate the unionization of agencies whose political ideology more closely resembles their own. This evidence is consistent with our model's logic that presidents aim to unionize employees whom they want to see remain in the bureaucracy. Third, we show empirically that more heavily unionized federal workforces remain more ideologically stable than less unionized workforces during presidential transitions. By contrast, less unionized workforces are more vulnerable to personnel turnover and thus to more dramatic ideological shifts when a new President comes to office.

As Lewis (2003; 2008) and Berry and Gersen (2011) have argued, presidents control bureaucratic policy through their political appointments to agency positions. Political appointees provide an immediate and direct tool for the president to manipulate the ideological direction of agencies for the duration of the *present* administration's term.

But the president also has ideological preferences over bureaucratic politics in the *future*, when he or she will no longer be in the White House and thus cannot control political appointments. Our manuscript thus complements and extends the past research of Lewis (2003; 2008) and Berry and Gersen (2011) by arguing that selective union formation allows the president to exercise indirect but *long-term* influence over the ideological composition of agencies. In contrast to political appointees, bureaucratic civil servants cannot be fired for explicitly political reasons; instead, civil servants can lose their jobs only for failing to meet standards of work quality. Unions protect bureaucrats from job termination, so by selectively manipulating the unionization of agencies, presidents can strategically increase or decrease the level of long-term employee turnover within agencies. We find that the president strategically uses this tool to increase turnover among ideologically distant agencies by choosing not to unionize them. Meanwhile, presidents selectively unionize ideologically friendly agencies,

thereby reducing their employee turnover and insulating their current ideological compositions from manipulation by future presidents.

Term limits and limited tenure are ubiquitous constraints faced by politicians throughout democratic systems. Hence, nearly every politician inevitably hopes to influence policies that will not be implemented until a future point in time when he or she is no longer in office. This manuscript explains how strategic unionization represents one important tool for presidents to pursue such preferences over future policy. While past research has astutely noted the rise in public sector unions and the effects of those unions on policy and politics, we have extended this literature by explaining why politicians may strategically sustain or even expand union coverage, in spite of unionization's immediate impediment of their political control of the bureaucracy.

Agency politicization is not the only consequence of such strategic unionization. As Gailmard and Patty (2007) argue, increased job security encourages bureaucrats to invest in greater policy expertise, and this expertise may induce future legislatures to grant more policy discretion to such bureaucrats. Hence, strategic unionization of an agency possibly affects not just the future direction of the agency's politics, but also the quality and expertise of its bureaucrats, thus altering a future legislature's options for bureaucratic delegation (e.g., Epstein and O'Halloran 1999; Huber and Shipan 2002). Future presidential administrations are also potentially affected, as presidents must expend more effort to monitor and control the regulatory actions of ideologically deviant agencies (e.g., Acs and Cameron 2011). These potential effects of strategic unionization remain fruitful lines of inquiry for future research.

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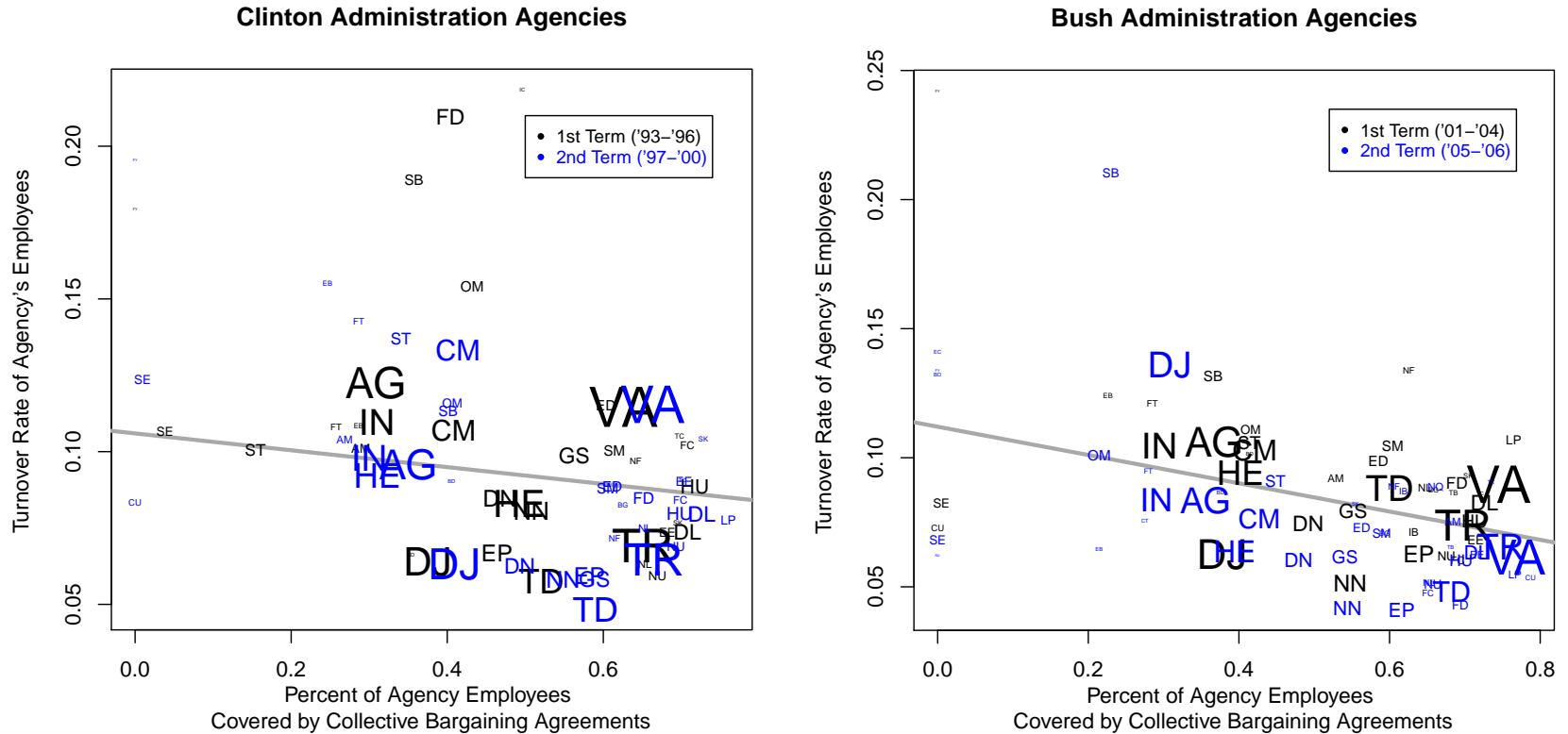
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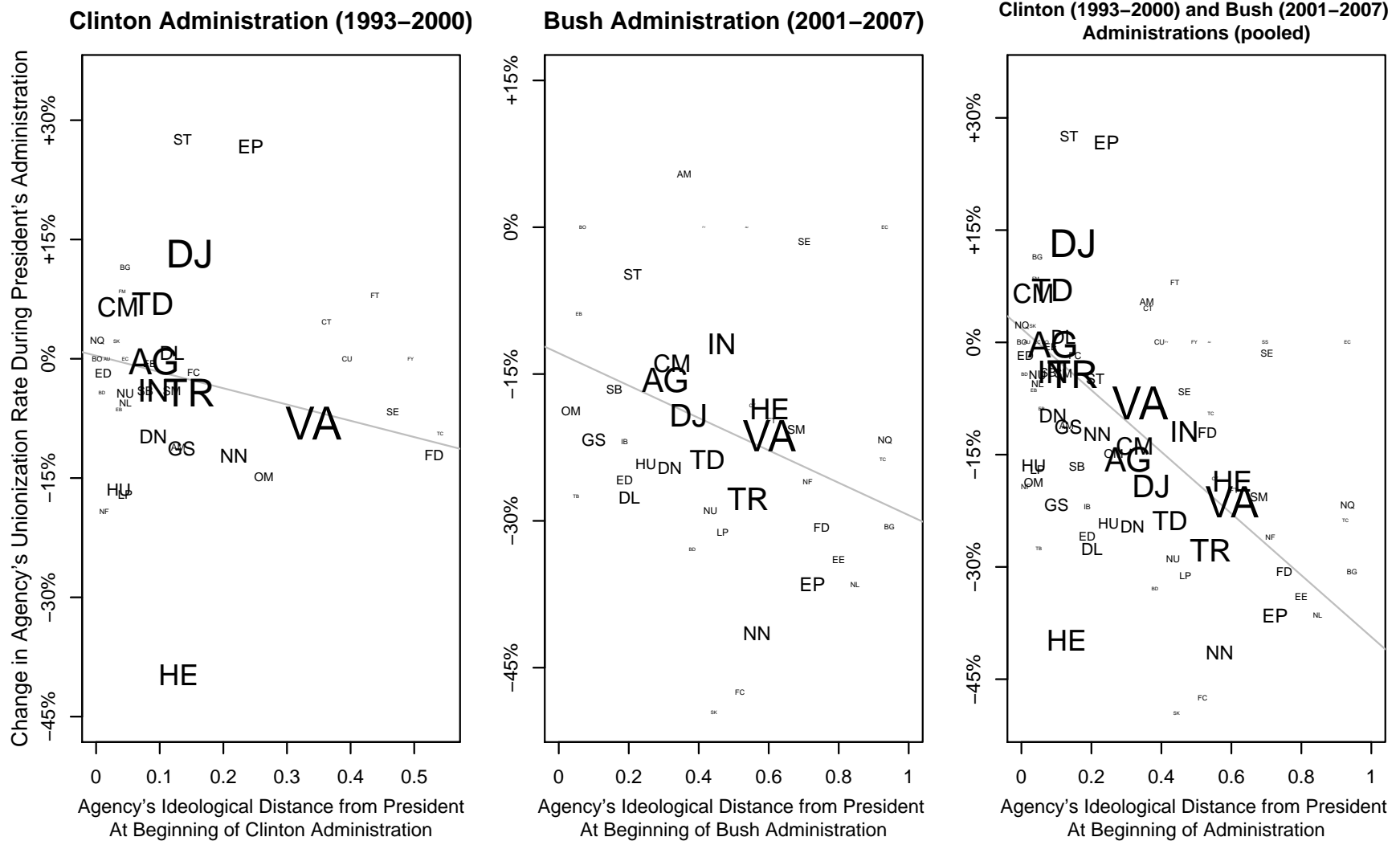
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Figure 1: Collective Bargaining and Personnel Turnover



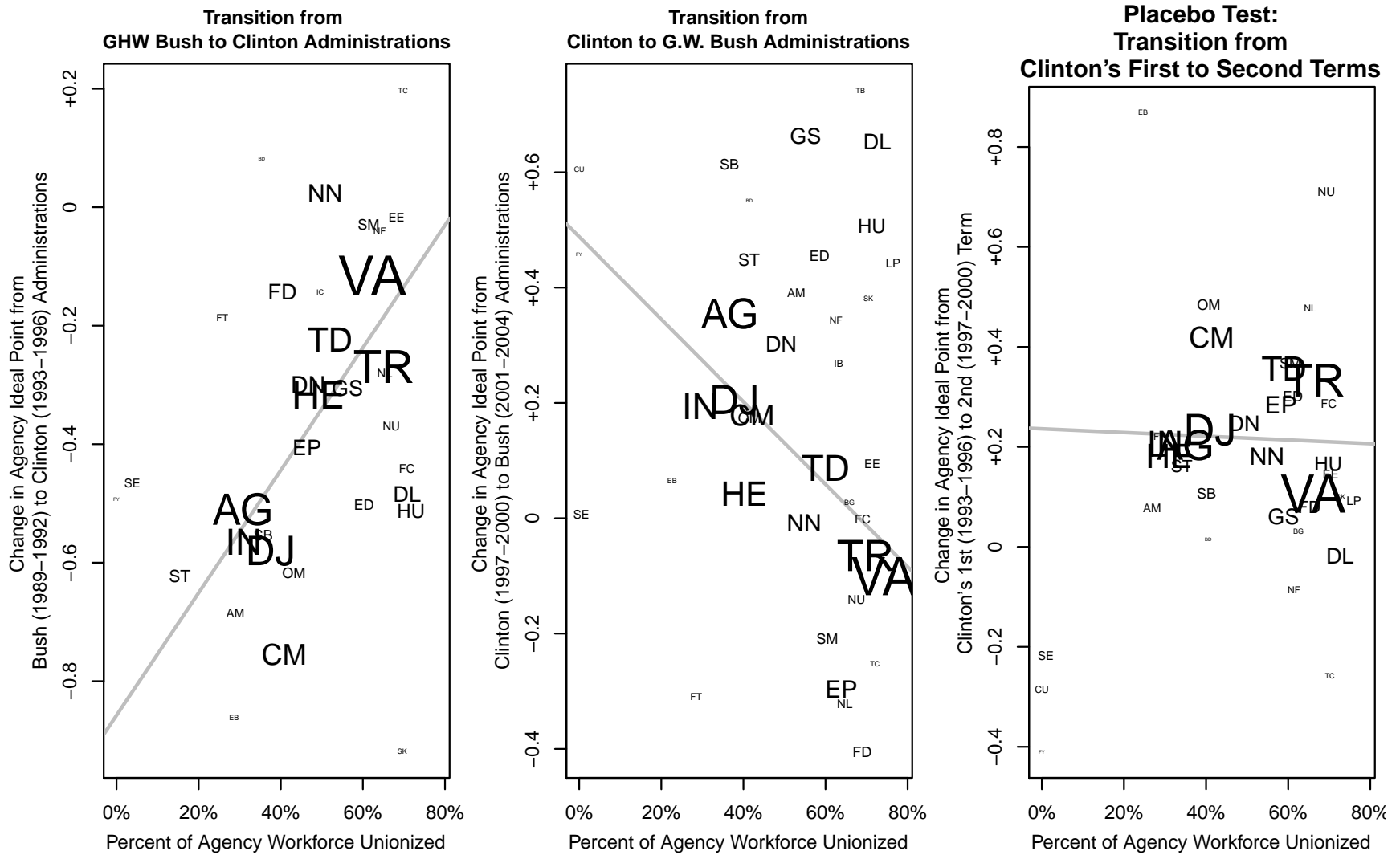
Note: Each observation represents one agency for a single presidential term. In each plot, the gray line represents the least-squares fitted line. Observations are weighted by the number of employees in each agency's workforce and only include agencies with valid ideal point estimates. The Bush administration data extend only through 2006 because the Office of Personnel Management's Central Personnel Data File does not include data past 2007, and one cannot infer an employee's exit from an agency in the final year of the data. In each plot, font sizes are proportional to the agencies' number of employees (logged). Table 1 lists definitions for all agency codes.

Figure 2: Presidents Unionize Agencies with Ideal Points Closer to their Own



Note: Each observation represents one agency for an entire presidential administration (two terms). In each plot, the gray line represents the least-squares fitted line. Observations are weighted by the number of employees in each agency's workforce and only include agencies with valid ideal point estimates. The Bush administration data extend only through 2007 because the Office of Personnel Management's Central Personnel Data File does not include data past 2007. In each plot, font sizes are proportional to the agencies' number of employees (logged). Table 1 lists definitions for all agency codes.

Figure 3: Effect of Unionization on Ideal Point Swing between Presidential Administrations



Note: Each observation represents one agency for an entire presidential administration (two terms). In each plot, the gray line represents the least-squares fitted line. Observations are weighted by the number of employees in each agency's workforce and only include agencies with valid ideal point estimates. The Bush administration data extend only through 2007 because the Office of Personnel Management's Central Personnel Data File does not include data past 2007. In each plot, font sizes are proportional to the agencies' number of employees (logged). Table 1 lists definitions for all agency codes.

Table 1: Agency Codes and Ideal Point Estimates

Code	Agency	G.H.W. Bush (1989-1992)	Clinton I (1993-1996)	G.W. Bush I (2001-2004)	Obama I (2009 only)
AG	Department of Agriculture	0.194	-0.316	0.243	-0.189
AM	Agency For International Development	0.406	-0.279	0.190	-0.214
AU	Federal Labor Relations Authority	---	-0.391	0.011	---
BD	Merit Systems Protection Board	-0.480	-0.399	0.168	---
BG	Pension Benefit Guaranty Corporation	---	-0.454	-0.396	---
BO	Office Of Management and Budget	---	-0.406	0.481	---
CM	Department of Commerce	0.381	-0.374	0.225	-0.218
CT	Commodity Futures Trading Commission	---	-0.046	-0.005	-0.128
CU	National Credit Union Administration	---	-0.013	0.306	-0.362
DJ	Department of Justice	0.319	-0.261	0.178	-0.147
DL	Department of Labor	0.195	-0.289	0.347	-0.301
DN	Department of Energy	-0.018	-0.318	0.231	-0.112
EB	Export-Import Bank of the United States	0.418	-0.444	0.491	-0.353
EC	Office of Administration	---	-0.454	-0.383	---
ED	Department of Education	0.106	-0.397	0.361	-0.306
EE	Equal Employment Opportunity Commission	-0.475	-0.492	-0.251	---
EP	Environmental Protection Agency	0.240	-0.165	-0.176	-0.038
FC	Federal Communications Commission	0.186	-0.255	0.031	-0.141
FD	Federal Deposit Insurance Corporation	0.266	0.123	-0.202	-0.473
FT	Federal Trade Commission	0.218	0.030	-0.059	-0.391
FY	Federal Housing Finance Board	0.580	0.087	0.134	---
GS	General Services Administration	0.032	-0.274	0.449	0.233
HE	Department of Health and Human Services	0.039	-0.278	-0.054	-0.381
HU	Department of Housing and Urban Development	0.140	-0.372	0.300	-0.299
IN	Department of Interior	0.247	-0.318	0.084	0.190
LP	Government Printing Office	---	-0.454	0.080	---
NF	National Science Foundation	-0.381	-0.421	-0.162	-0.152
NL	National Labor Relations Board	-0.174	-0.454	-0.297	0.270
NN	National Aeronautics and Space Administration	-0.215	-0.191	-0.018	-0.210
NQ	National Archives and Records Administration	---	-0.410	-0.383	---
NU	Nuclear Regulatory Commission	-0.084	-0.454	0.115	-0.406
OM	Office of Personnel Management	0.473	-0.144	0.514	-0.362
SB	Small Business Administration	0.222	-0.331	0.390	-0.082
SE	Securities and Exchange Commission	0.524	0.059	-0.153	-0.263
SK	Consumer Product Safety Commission	0.543	-0.376	0.105	---
SM	Smithsonian Institution	-0.259	-0.289	-0.130	-0.268
ST	Department of State	0.350	-0.272	0.338	0.312
TB	National Transportation Safety Board	-0.456	---	0.499	-0.380
TC	United States International Trade Commission	-0.064	0.133	-0.377	-0.072
TD	Department of Transportation	-0.095	-0.319	0.124	-0.103
TR	Department of Treasury	0.008	-0.261	0.008	-0.170
VA	Department of Veterans Affairs	0.052	-0.064	-0.058	-0.041

Note: Estimates marked “---” were not calculated due to the agency’s employees making too few campaign contributions during the specified time period.

Table 2:
Test of Proposition 1: Individual-Level Logistic Regression Analysis of Unionization and Agency Exit

Dependent Variable: Agency Exit 1=Left Agency, 0=Remains in Agency		
Parameter	Parameter Estimates	Odds Ratio Estimate & 95% Conf. Interval
Unionized	-0.39*** (0.01)	0.68 [0.67, 0.68]
Unidentified Occupation	0.35*** (0.04)	1.42 [1.31, 1.53]
Administrative Occupation	0.20*** (0.01)	1.22 [1.21, 1.22]
Blue Collar Occupation	0.14*** (0.01)	1.15 [1.15, 1.16]
Clerical Occupation	0.12*** (0.01)	1.13 [1.13, 1.14]
Other White Collar Occupation	0.24*** (0.01)	1.28 [1.27, 1.28]
Professional Occupation	0.27*** (0.01)	1.31 [1.31, 1.32]
Years in Federal Government	-0.03*** (0.01)	0.97 [0.97, 0.97]
Log(Inflation Adjusted Basic Pay)	-0.82*** (0.01)	0.44 [0.44, 0.44]
Intercept	6.96*** (0.02)	----
Percent Correct Predictions (0.5 Cutoff)	88.6%	
<i>N</i>	35,648,995	

Note: Logistic regression coefficient is the top-most value in the middle column of cells. Standard errors are listed in parentheses. Odds ratio point estimates and their 95% Wald Confidence Limits are listed in the right hand column; the confidence limits are placed in brackets with the lower limit on the left and the upper limit on the right. Estimates are rounded. Observations with missing values, which constitute less than 1% of the complete data set, are excluded from the analysis.

Table 3:
Test of Proposition 1: Agency-Level Regression Analysis – Employee Unionization and Turnover

	<i>Dependent Variable: Personnel Turnover</i>		
	Model 1	Model 2	Model 3
<i>Time Period</i>	Clinton Administration ('93 - '00) & G.W. Bush Administrations ('01 - '06)	Clinton Administration ('93 - '00) & G.W. Bush Administrations ('01 - '06)	Clinton Administration ('93 - '00) & G.W. Bush Administrations ('01 - '06)
% Unionized	-0.05*** (0.01)	-0.07*** (0.02)	-0.09*** (0.01)
% Technical	----	0.12** (0.04)	0.23*** (0.05)
% Administrative	----	0.09* (0.04)	0.20*** (0.05)
% Blue Collar	----	0.24*** (0.06)	0.33*** (0.07)
% Clerical	----	0.20*** (0.05)	0.31*** (0.06)
% Professional	----	0.10** (0.04)	0.15*** (0.04)
% PhD	----	----	0.27 (0.24)
% Professional Degree	----	----	0.22*** (0.06)
% Bachelor Degree	----	----	-0.01 (0.06)
% Masters Degree	----	----	0.02 (0.10)
Intercept	0.11*** (0.01)	0.01 (0.03)	-0.09 (0.05)
R ²	0.09	0.35	0.43
N	151	151	151

Note: Observations are weighted by the number of employees in each agency's workforce.

Table 4:
Test of Proposition 2: Agency-Level Models of Change in Unionization Rate

<i>Dependent Variable: Change in Agency's Unionization Rate During President's Administration</i>			
	Clinton and Bush Administrations (Pooled Data)	Clinton Administration (1993-2000)	Bush Administration (2001-2007)
	Model 1	Model 2	Model 3
Distance between Agency's Ideal Point and President's NOMINATE Score	-0.18* (0.09)	-0.20 (0.18)	-0.17* (0.07)
Clinton Administration (Indicator Variable)	0.12** (0.03)	----	----
Intercept	-0.12* (0.05)	0.00 (0.04)	-0.13*** (0.03)
R^2	0.42	0.03	0.13
N	86	43	43

*** $p < .001$; ** $p < .01$; * $p < .05$ (two-tailed). Standard errors in parentheses.

Note: Observations are weighted by the number of employees in each agency's workforce. Each observation represents one agency for a single presidential administration. The main independent variable is the absolute distance between the agency's ideal point estimate and the president's NOMINATE, both estimated for the president's first term. The dependent variable is measured as the agency's unionization rate during the president's second term, minus its unionization rate during the president's first term. Data include only agencies with valid ideal point estimates for the president's first term.

Table 5:
Test of Proposition 3: Nonunionized Agencies Exhibit More Ideal Point Volatility During Presidential Transitions

	Model (1)	Model (2)	Model (3): Placebo Test
<i>Time Period:</i>	Clinton Administration, First Term	G.W. Bush Administration, First Term	Clinton Administration, Second Term
<i>Dependent Variable:</i>	Change in Agency's Ideal Point from Bush ('89-'92) to Clinton ('93-'96)	Change in Agency's Ideal Point from Clinton ('97-'00) to Bush ('01-'04)	Change in Agency's Ideal Point from Clinton First Term ('93-'96) to Clinton Second Term ('97-'00)
Proportion of Agency Workforce Unionized	1.034 ^{***} (0.173)	-0.715 ^{***} (0.165)	-0.037 (0.124)
Constant	-0.858 ^{***} (0.091)	0.488 ^{***} (0.094)	0.236 ^{**} (0.067)
<i>R-squared</i>	0.53	0.34	0.00
<i>N</i>	34	38	36

*** $p < .001$; ** $p < .01$; * $p < .05$ (two-tailed). Standard errors in parentheses.

Note: Data include one observation for each agency for which ideal points and unionization data are available during the time period. Observations are weighted by the number of employees in each agency's workforce and include only agencies with valid ideal point estimates for both the president's first term and the previous president's final term (Several agencies are deleted because they lack ideal point estimates for both terms). The placebo test suggests that unionization does not affect agency ideal points movements between Clinton's first and second terms.

Formal Model Proofs

Proof of Lemma A: R chooses m without knowing q_A , the quality of employee A . Instead, R only knows that q_A has been drawn from the uniform distribution: $q_A \sim U[0,1]$. If $q_A \geq m$, then A remains the bureaucratic employee, and R 's payoff is: $U_R = q_A - |x_A - 1|$. But if $q_A < m$, then A is fired, B becomes the bureaucrat, and R 's payoff is: $U_R = q_B - |x_B - 1|$, where x_B and q_B are each chosen by Nature from the distribution: $U[0,1]$. Hence, in choosing m , R optimizes as follows:

$$\arg \max_{m \in [0,1]} : \int_m^1 (q_A - 1 + x_A) \cdot dq_A + \int_0^m \left[\int_0^1 q_B \cdot dq_B - 1 + \int_0^1 x_B \cdot dx_B \right] \cdot dq_A$$

$$s.t.: m \leq 1 - u,$$

where the constraint, $m \leq 1 - u$, represents the limitation imposed by L 's unionization policy. The

optimization solution is: $m^* = \begin{cases} 1 - x_A, & \text{if } x_A \geq u; \\ 1 - u, & \text{otherwise.} \end{cases} = \min\{(1 - x_A), (1 - u)\}$.

Proof of Lemma B: If he *stays*, then A receives a payoff of 1 if $q_A \geq m$, and 0 otherwise. If he *exits*, then A 's payoff is $w \in (0,1)$. Hence, A anticipates R 's equilibrium choice of m^* and *exits* iff: $q_A < m^* = \min\{(1 - x_A), (1 - u)\}$.

Proof of Lemma C: Via Lemma B, L 's choice of u affects A 's decision of whether to *stay* or *exit*. If A *stays*, then L 's payoff is: $U_L = q_A - x_A$. But if A *exits*, then L 's payoff is: $U_L = q_B - x_B$, where x_B and q_B are each chosen by Nature from the distribution: $x_B, q_B \sim U[0,1]$. Hence, in choosing u , L faces the optimization problem:

$$\arg \max_{u \in [0,1]} : \int_{1-u}^1 (q_A - x_A) \cdot dq_A + \int_0^{1-u} \left[\int_0^1 q_B \cdot dq_B - \int_0^1 x_B \cdot dx_B \right] \cdot dq_A,$$

which has the solution: $u^* = \begin{cases} 1 - x_A, & \text{if } x_A < \frac{1}{2}; \\ 0, & \text{if } x_A \geq \frac{1}{2}. \end{cases}$

Proof of Proposition 1: Via Lemma B, A *exits* iff his quality, q_A , falls below the threshold: $q_A < \min\{(1 - x_A), (1 - u)\}$. Because q_A is drawn randomly by Nature from the distribution

$q_A \sim U[0,1]$, the probability that A *exits* is: $\Pr(A \text{ exits}) = \begin{cases} 1 - x_A, & \text{if } u \leq x_A; \\ 1 - u, & \text{if } u > x_A. \end{cases}$ The first-order

derivative is: $\frac{\partial \Pr(A \text{ exits})}{\partial u} = \begin{cases} 0, & \text{if } 0 \leq u \leq x_A; \\ -1, & \text{if } x_A < u \leq 1. \end{cases}$ Hence, the probability that A *exits* is weakly

decreasing along $u \in [0,1]$.

Proof of Proposition 2: Via Lemma C, the equilibrium level of unionization is:

$u^* = \begin{cases} 1 - x_A, & \text{if } x_A < \frac{1}{2}; \\ 0, & \text{if } x_A \geq \frac{1}{2}. \end{cases}$ The first-order derivative w.r.t. x_A is: $\frac{\partial u^*}{\partial x_A} = \begin{cases} -1, & \text{if } x_A < \frac{1}{2}; \\ 0, & \text{if } x_A \geq \frac{1}{2}. \end{cases}$ Hence,

equilibrium unionization is weakly decreasing along $x_A \in [0,1]$.

Proof of Proposition 3: The second-period bureaucrat's identity depends on whether the first-period bureaucrat, A , *stays* or *exits*. If A *stays*, then the period 2 bureaucrat's ideal point remains x_A . But if A *exits*, B becomes the period 2 bureaucrat, and his ideal point is drawn by Nature, with an expected value of $E[x_B] = \int_0^1 x_B \cdot dx_B$. Moreover, the likelihood of A *exiting* is a function of u , via Proposition 1. Hence, when $x_A < 0.5$, the expected value of the second-period bureaucrat's ideal point, denoted below as $E[x_2]$, is:

$$E[x_2] = \begin{cases} \int_0^{1-x_A} \left[\int_0^1 x_B \cdot dx_B \right] \cdot dq_A + \int_{1-x_A}^1 x_A \cdot dq_A, & \text{if } u \leq x_A; \\ \int_0^{1-u} \left[\int_0^1 x_B \cdot dx_B \right] \cdot dq_A + \int_{1-u}^1 x_A \cdot dq_A, & \text{if } u > x_A. \end{cases} = \begin{cases} x_A^2 - \frac{x_A}{2} + \frac{1}{2}, & \text{if } u \leq x_A; \\ \frac{1}{2} - u \left(\frac{1}{2} - x_A \right), & \text{if } u > x_A. \end{cases}$$

Hence, the expected change in the bureaucrat's ideal point from period 1 to period 2 is:

$$E[x_2] - x_A = \begin{cases} x_A^2 - \frac{3x_A}{2} + \frac{1}{2}, & \text{if } u \leq x_A; \\ (1-u) \left(\frac{1}{2} - x_A \right), & \text{if } u > x_A. \end{cases}, \text{ which is weakly decreasing along } u \text{ when } x_A < 0.5.$$

Figure App.1: Agency Ideal Points, George H.W. Bush Administration

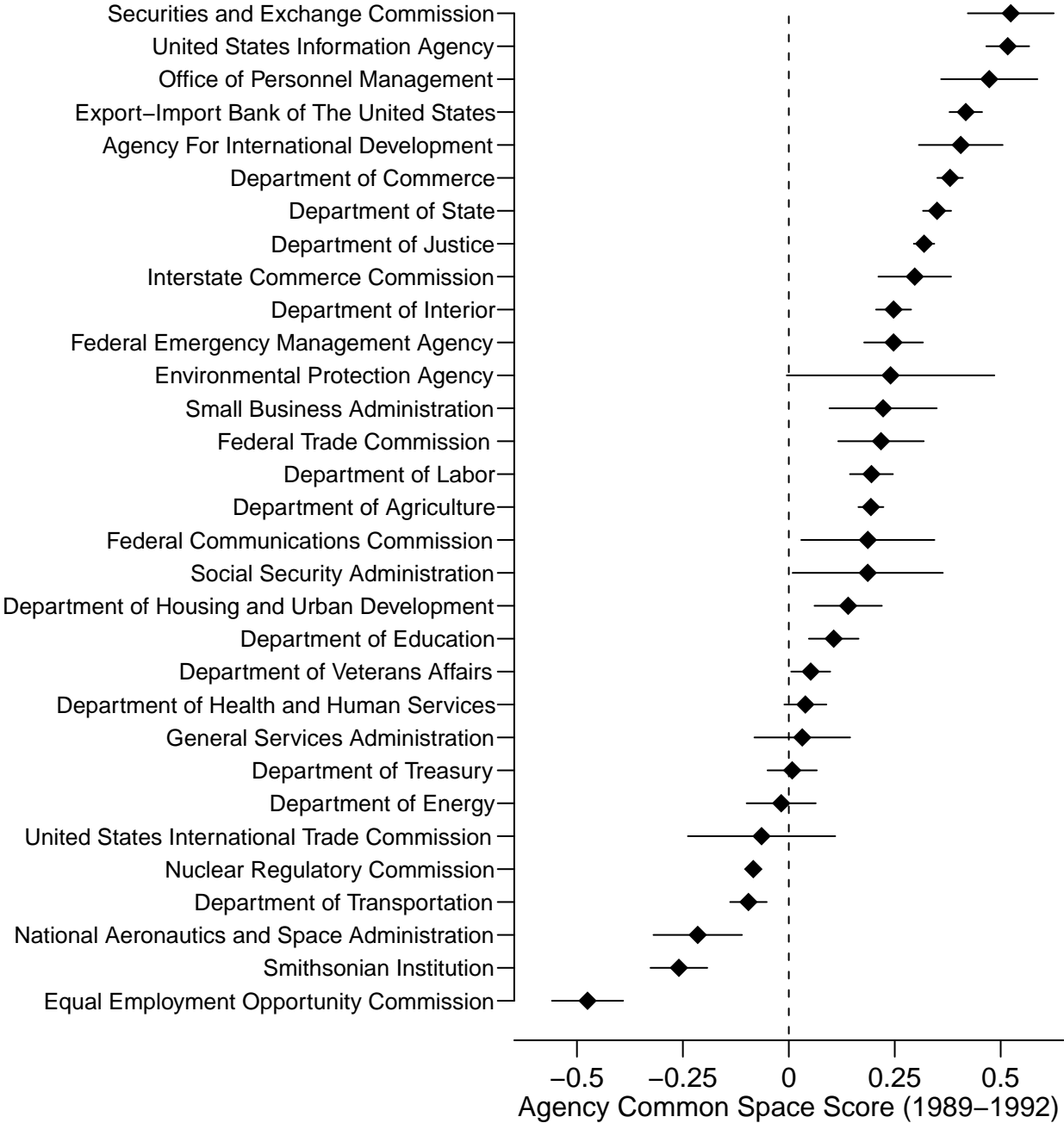


Figure App.2: Agency Ideal Points, Clinton Administration (1st Term)

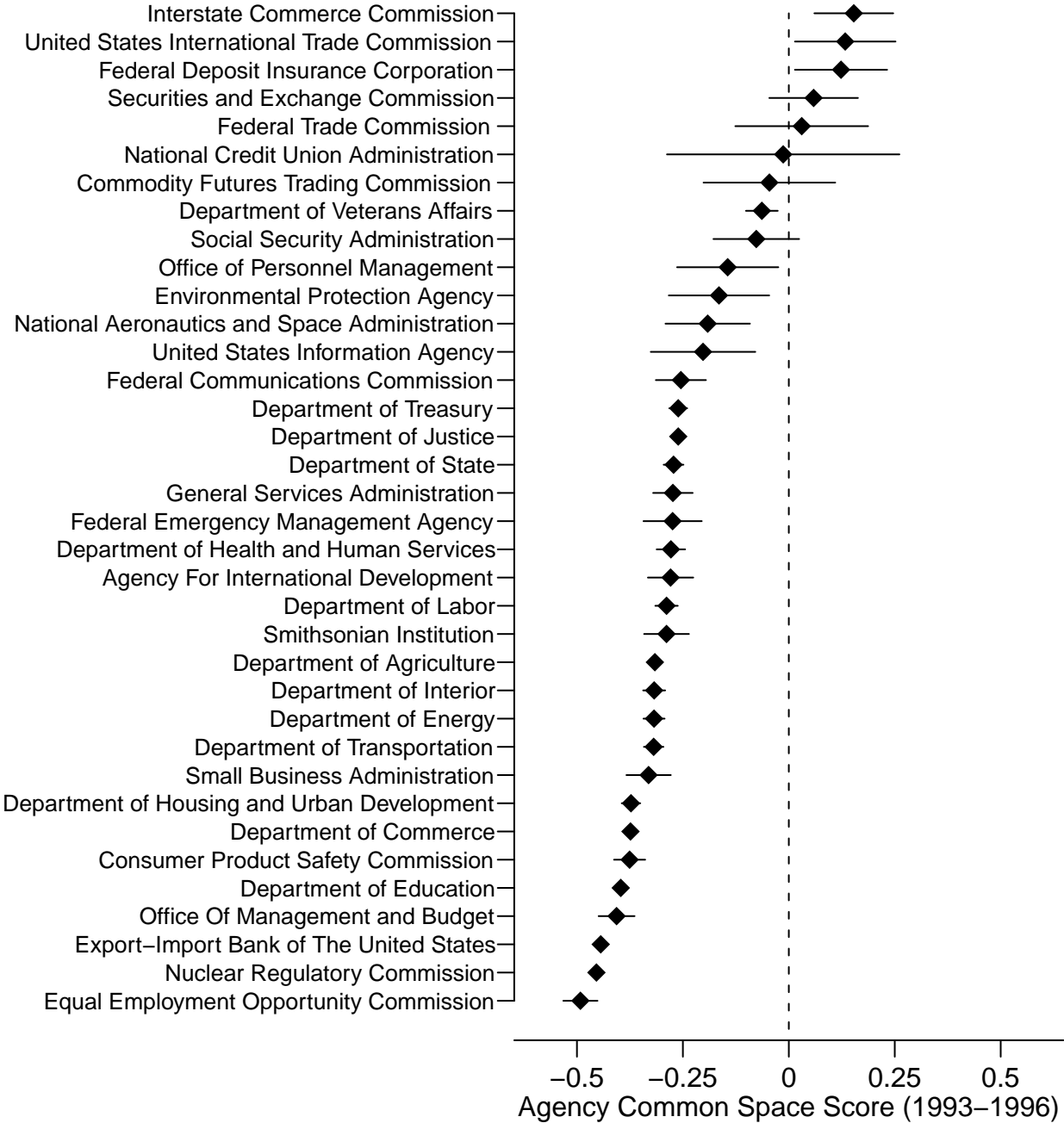


Figure App.3: Agency Ideal Points, Bush Administration (1st Term)

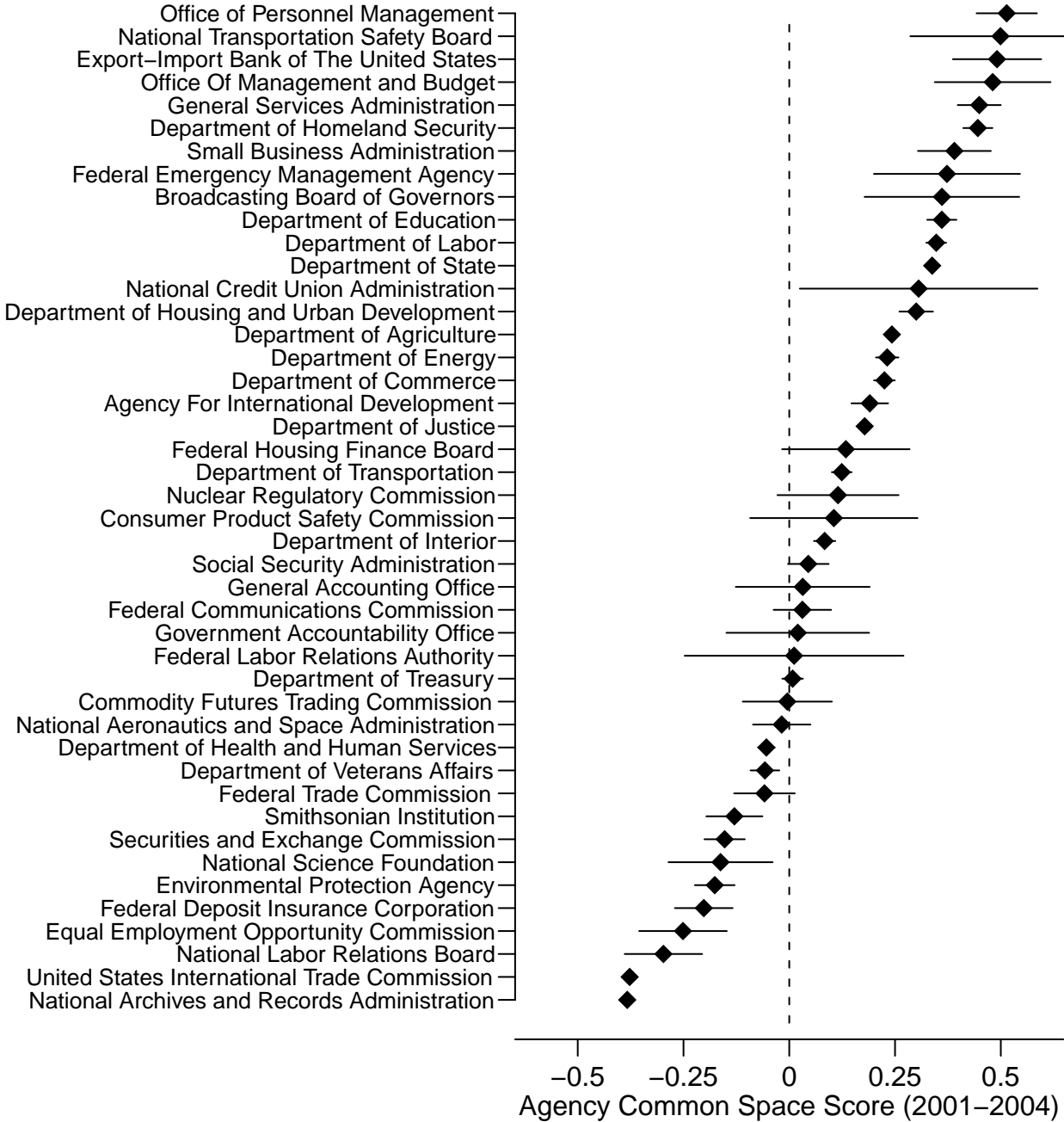


Figure App.4: Agency Ideal Points, Obama Administration

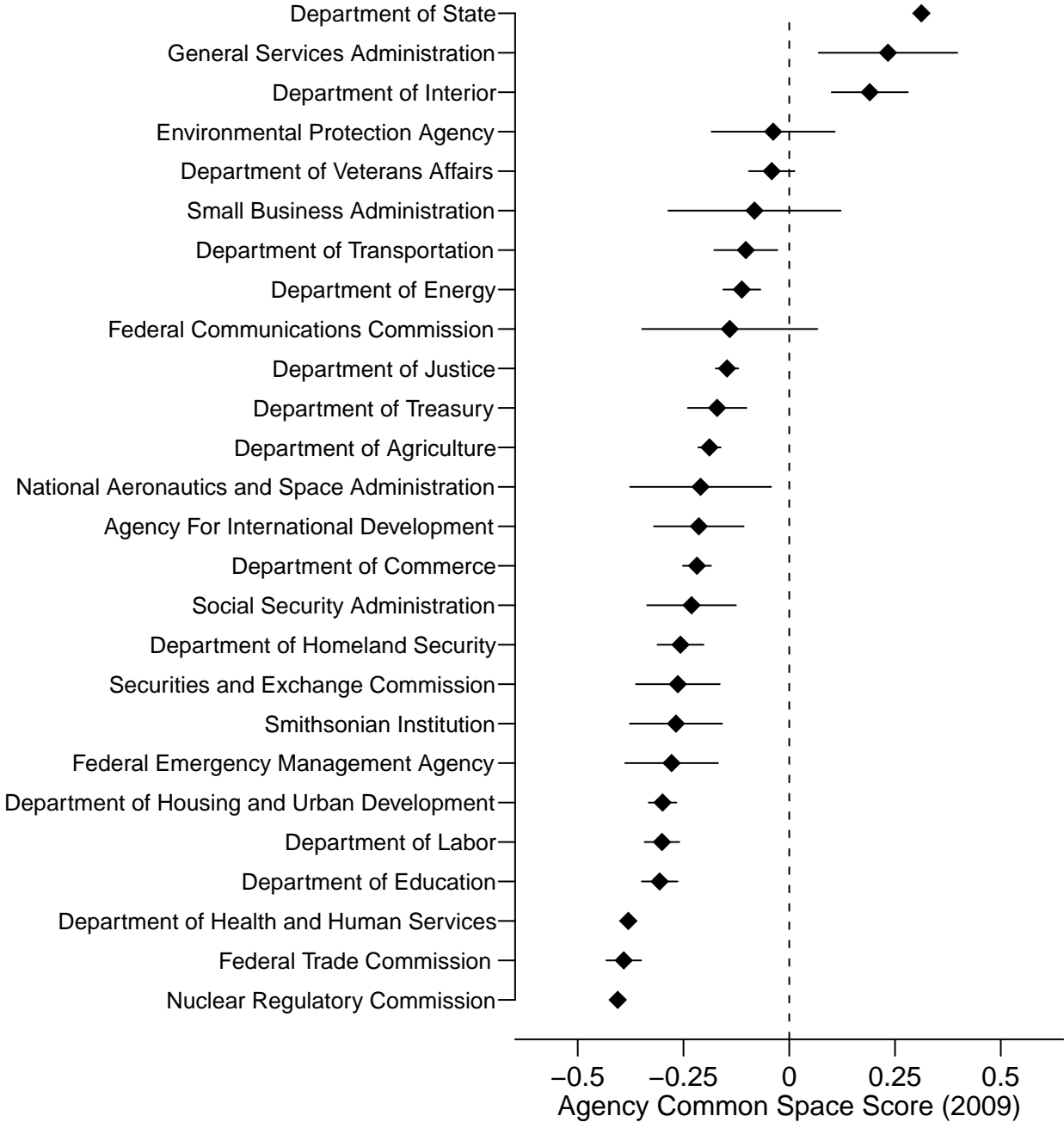
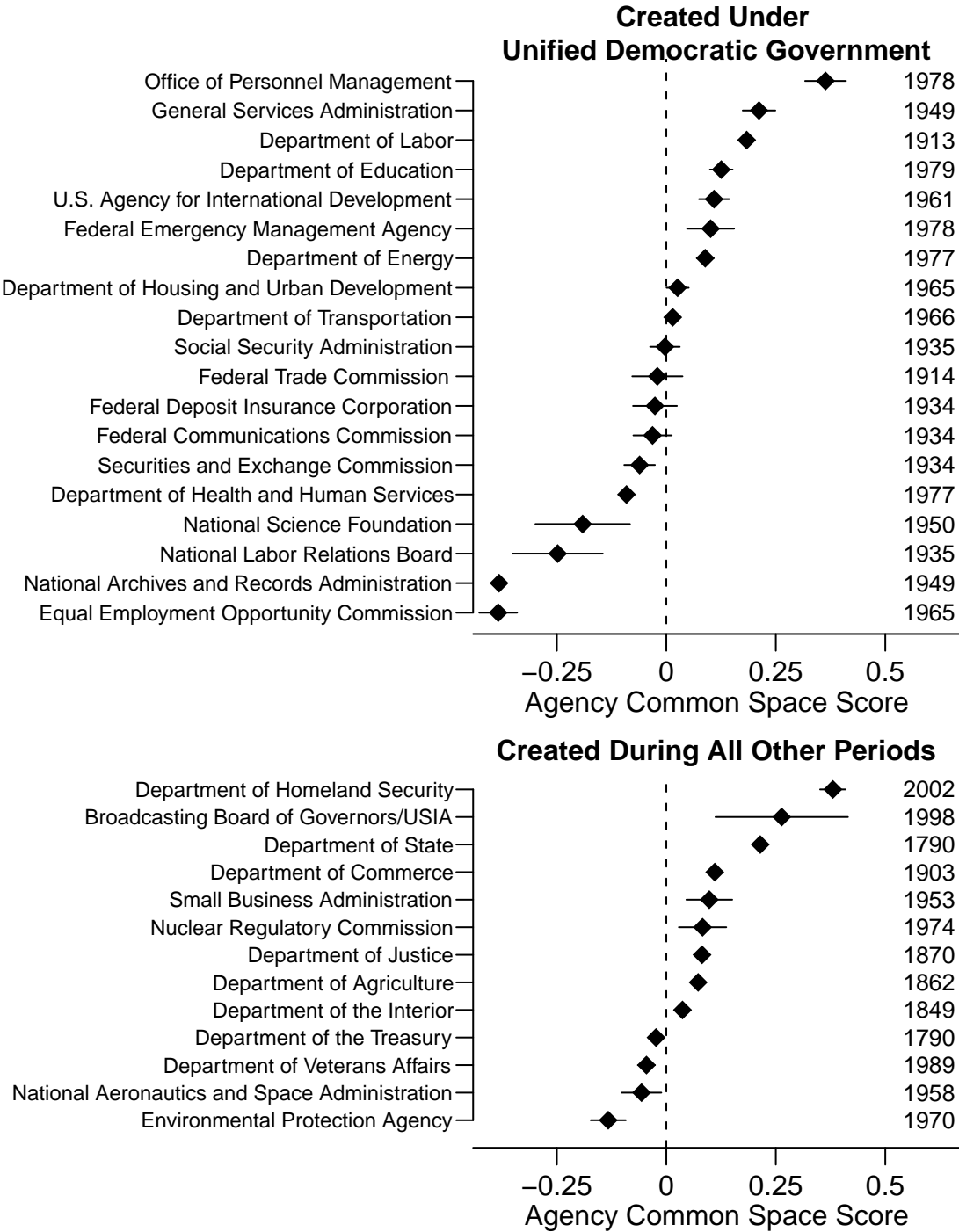
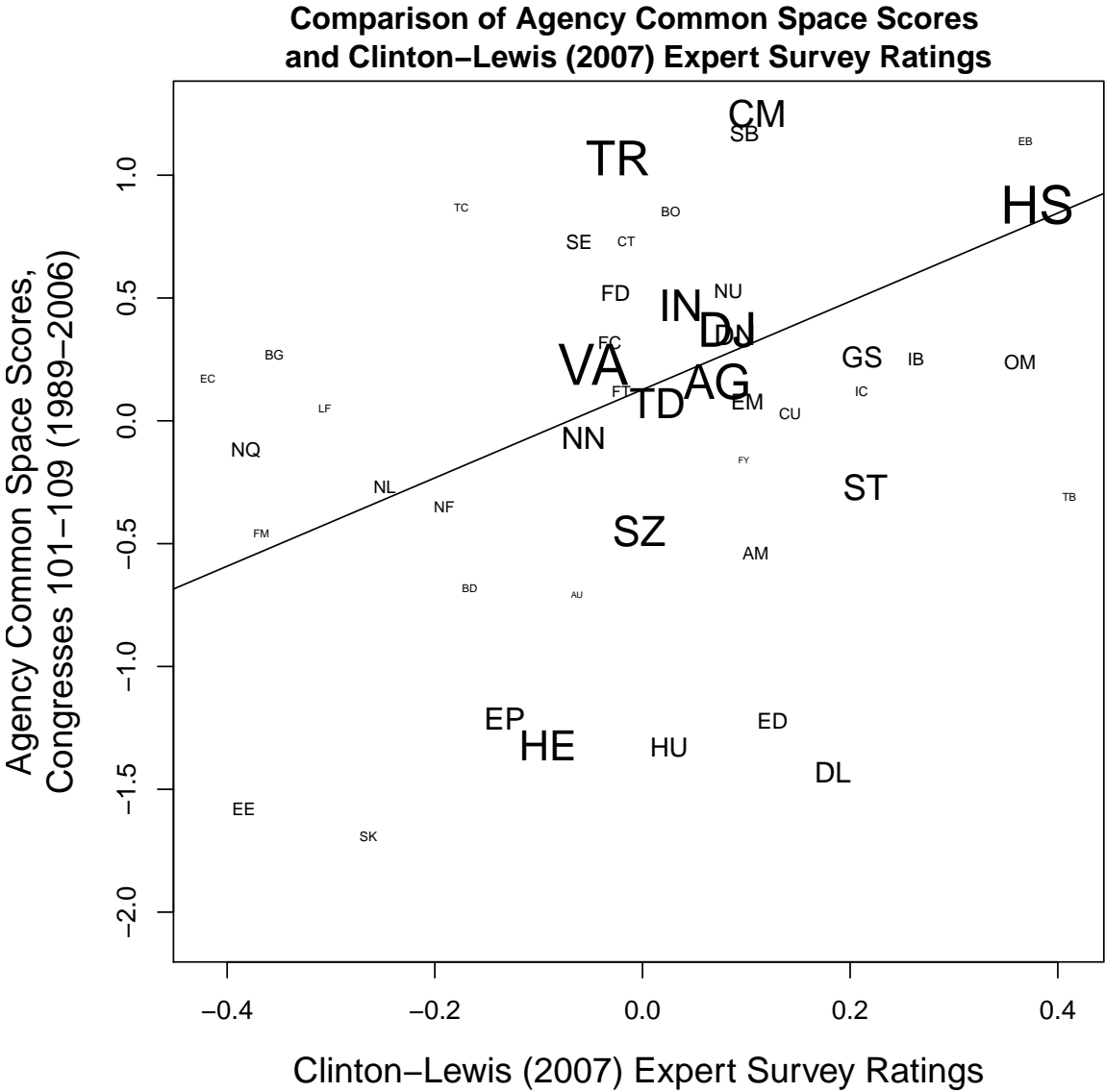


Figure App.5: Agencies Created During Periods of Unified Democratic Government



Note: All Common Space ideal point scores are calculated using aggregated campaign contributions during the 1989-2006 period.

Figure App.6: Comparison with Clinton-Lewis (2007) Agency Preferences



Note: All Common Space ideal point scores are calculated using aggregated campaign contributions during the 1989-2006 period. The solid line represents the least-squares fit, with observations weighted by the number of employees in each agency. Font sizes in this plot are proportional to the number of employees in each agency.