

Compliance, Competence, and Bureaucratic Leadership in U.S. Federal Government Agencies: A Bayesian Generalized Latent Trait Analysis

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Abstract

Recent research has made great strides in measuring executive branch officials' policy preferences. These studies, however, are suitable only for addressing moral hazard problems related to delegation that occur *after* nomination. Moreover, these measures are restricted solely to the analysis of shared (ideological) policy orientations. This study instead focuses on the agent selection problem confronting the president *before* nomination. Specifically, we seek empirically to ascertain bureaucratic agents' compliance and competence at the time of their nomination by the appointing president based on public biographical data. We provide statistical estimates of *ex ante* compliance and competence for approximately 1357 Senate-confirmed presidential appointees serving in leadership positions within 39 U.S. federal government agencies during the administrative presidency era. The preliminary evidence shows that presidents most value appointee responsiveness in executive agencies and head supervisory positions within government agencies, while emphasizing appointee expertise in independent regulatory commissions and subordinate agency leadership positions. A preliminary analysis of appointee compliance scores and presidential-cabinet secretary ideological distance measure reveals that these measures are inversely related to one another, but that this is largely driven by shared partisan affiliation between the appointing president and the president's chosen agency leaders.

As spelled out in the U.S. Constitution, presidents play a central role in policy administration. Specifically, American presidents serve as Chief Administrator (Article II, Section 1, paragraph 1, Section 2, paragraphs 1 and 2), exercising considerable authority through the dual powers of appointment authority and internal direction of government agencies. In tandem, this constitutional authority provides the basis for how presidents manage the federal bureaucracy. In their role as Chief Administrator, presidents wrestle with the tension between ensuring that the bureaucracy is responsive to their policy goals (*compliance*), while also desiring agency officials to possess sufficient expertise and capacity to effectively execute tasks relating to policy administration (*competence*). This tension between responsiveness and expertise has resulted in clashing normative perspectives on the proper exercise of presidential authority over the bureaucracy, with some scholars advocating the independent exercise of bureaucratic expertise (Hecl 1975; Kaufman 1956; Wilson 1887; Rourke 1984), and others calling for bureaucratic responsiveness to presidential goals arising from concerns of democratic accountability (Moe 1985, 1989; Wood and Waterman 1994).

Policy administration by government agencies is not simply a matter of academic debate. Federal agencies in the United States engage in more “lawmaking” and “judging” than Congress and the federal courts combined. In 2007, Congress enacted 138 public laws. By contrast, in that same year, federal agencies finalized approximately 3000 rules, of which 61 were labeled as major regulations, typically having an annual effect on the economy of at least \$100 million. In a similar period, Article III and bankruptcy judges conducted about 95,000 adversarial proceedings, including trials, while federal agencies completed close to 940,000 such proceedings, including immigration and social security disputes (O’Connell

2009). Over 1,100 Senate-confirmed presidential appointees run these agencies, which range from agencies directly under the control of the president (such as the Environmental Protection Agency) to independent regulatory commissions with more independence from the White House (such as the Federal Communications Commission).

In this study, we seek to provide critical empirical leverage on the presidency's dual constitutional concerns regarding bureaucratic compliance and competence. These concepts are measured as latent traits based on objective biographical information for those individuals appointed to agency leadership positions during the modern administrative presidency era. These measures can offer insights not only into how presidents' appointment choices reflect their views about individual government agencies, but also their broader appointment strategies for managing the federal bureaucracy. Although agency leadership positions are relatively small in number (compared to the size of the federal bureaucracy), we focus on such positions because these political executives possess disproportional influence and power over the content and character of U.S. federal government policymaking (e.g., Kaufman 1981; Lewis 2008; Rourke 1984; Seidman and Gilmour 1986; Wilson 1989). Appointed officials in agency leadership positions make both routine and critical policy decisions in diverse areas, including the environment, telecommunications, labor relations and national security, to name just a few.

This study makes valuable contributions to political science scholarship on three distinct levels. On a conceptual level, our approach to defining agent compliance and competence in a hierarchical principal-agent context is a stark departure from existing studies. As to compliance, these studies restrict their attention to shared political values or orientation between principal and agent as the basis for compliance, which is empirically

assessed in terms of ideological congruence between presidents and agency personnel emanating from spatial theories of voting (e.g., Bertelli and Grose 2007, 2009, n.d.; Clinton et al., n.d.; Nixon 2004). We posit instead that agent compliance does not solely rest upon shared political values or orientation between the principal and agent, but also depends on agent fealty that can come from a shared organizational identity, which can create a commitment to being a “team player” when serving in a subordinate capacity to the president (e.g., Akerlof and Kranton 2010; March and Simon 1992; Weber 1914 [1978]). Although analytical theories of delegation to the bureaucracy correctly emphasize the importance of agent competence for understanding the exercise of policymaking authority (e.g., Bawn 1995; Bendor and Meirowitz 2004; Gailmard and Patty 2007; n.d.), unlike previous research, we attempt conceptually to define the elements of agent competence rooted in the individual-level professional characteristics of bureaucratic appointees by examining both the quantity and quality of job qualifications for a given position.

On an empirical level, we produce measures that enable us to assess the extent to which presidents select appointees for leadership positions in government agencies based on their latent traits revolving around the dual considerations of the Chief Administrator, compliance and competence, and how this selection may vary across different agency, organizational, and political contexts. Such empirical work is critical for better understanding of how presidents’ appointment choices can influence the character and functioning of governance in administrative agencies. For instance, we can assess the extent of a compliance-competence tradeoff in the selection of agency leaders, and how that tradeoff may vary across different agency and political contexts.

On a methodological level, we make a pair of novel contributions. First, we utilize a novel biographical database on agency leadership appointees containing information known by the president at the time of the nomination decision. This database allows us to ascertain the publicly known professional and personal backgrounds of political executives prior to their appointed service. Thus, we can be confident that the agent traits we estimate do not depend on information observed after the president’s nomination decision. In addition, the agent traits do not depend on less temporally durable or reliable information such as legislative roll-call vote surveys of federal bureaucrats (e.g., Clinton, et al. n.d.; Lewis 2009) and public statements made by cabinet secretaries in legislative settings (e.g., Bertelli and Grose 2007, 2009, n.d.). Finally, measuring traits from objective data culled from biographical profiles overcomes the limitations of using scaled commission member votes to predict agency leadership ideology in regulatory commissions (e.g., Chappell, MacGregor, and Vermilyea 2005; Snyder and Weingast 2000). Besides only capturing the ideological preference dimension of agent compliance, these measures suffer from tautological problems because they use agency behavior derived from commission voting behavior to predict agency behavior or actions that are the direct consequence of commission voting outcomes.¹

Second, we construct estimates of each agent’s compliance and competence employing generalized latent trait analysis (GLTA) estimated using Bayesian MCMC simulation methods. GLTA is a generalization of more commonly used confirmatory factor analysis and item response models insofar that GLTA allows for manifest indicator variables

¹ This “votes-on votes” problem has been documented in the study of roll-call voting in legislatures (see Jackson and Kingdon 1992).

with multiple different measurement schemes (i.e., mixture distributions).² These methods allow us to generate statistical estimates of agent compliance and competence as latent traits for each appointee in our database. Because we use Bayesian MCMC simulation methods, we generate measures of uncertainty that vary across individual appointees by agent trait.

The paper is organized as follows. The next section discusses conceptual issues regarding agent selection within a principal-agent theory context, and its relevance for the study of presidential appointment decisions. The third section explains the data and methods employed to arrive at latent trait measures of appointee compliance and competence. The empirical findings assessing the varying nature of the compliance-competence tradeoff are presented in the fourth section, including an analysis of cabinet secretaries comparing our appointee compliance scores with those of Bertelli and Grose (2007, 2009, n.d.). The paper concludes by summarizing the utility of our measures and our preliminary empirical results.

2. Presidents and Agency Appointees: Conceptualizing the Agent Selection Problem

Although research on presidential appointments to government agencies has made great strides over the past two decades, we still know relatively little about *how* presidents choose bureaucratic agents, and how these officials actually shape the content of policy administration. For instance, Paul Light (1995) has described the growing layering of management positions in the federal bureaucracy. David Lewis's (2008) recent book systematically investigates the variation in the composition of political and

² In the state of the art in latent trait modeling in political science, Quinn (2004) "maps" a mixture of continuous and ordinal political-economic risk indicators onto a continuous, latent ideological policy space, while Jackman and Treier (2008) "map" ordinal POLITY IV indicators onto a continuous, latent Democracy space.

career slots. In terms of agency staffing decisions, Lewis's work is insightful for understanding how presidents strategically manipulate appointive position slots vis-à-vis civil service position slots to balance presidential responsiveness with competent administration. Lewis's book, however, does not explicitly address individual appointees' characteristics. Hence, there is neither individual-level variation across political executives nor any knowledge of their *ex ante* compliance and competence. Therefore, while research on presidential appointments to administrative agencies has made considerable progress over the past two decades, little is systematically known about how presidents select particular individuals to fill appointive position slots in either theoretical or empirical terms (but see Mackenzie 1981 for a useful taxonomy). This is because there is a dearth of scholarly knowledge about the individual-level characteristics of presidential appointees to government agencies.³

³ To be certain, there have been some comprehensive *descriptive* treatments of appointees. William Henry Smith (1925) collected biographies of cabinet officials from President Washington to President Coolidge. David Stanley, Dean Mann, and Jameson Doig (1967) compared top officials from the New Deal to early in the Johnson Administration, examining their geographic representation, religion, education, age, party and political activities and experience, previous and subsequent employment, and tenure. Building on that data, Mann (1965) analyzed assistant secretaries and other second tier officials from 1945 to 1961, looking at similar characteristics, in more detail. The National Academy of Public Administration surveyed close to 1300 political appointees who served in over 1500 positions between 1964 and 1984. Many scholars have examined these survey responses. Linda Fisher (1987), for example, compared them to information on earlier appointees (1933-1965) on a range of dimensions, including gender, race, age, educational level, geographic origin, partisanship, occupation and experience, tenure, and post-employment. Using different data, Anthony Bennett (1996) has examined cabinet officials from President Kennedy to President George H.W. Bush, providing information on tenure, geography, and occupational backgrounds. Joel Aberbach and Bert Rockman (2000) interviewed top civil servants and sub-cabinet political appointees under Presidents Nixon, Reagan, and George H.W. Bush and then analyzed a wide range of demographic and experience information (including the prestige of educational institutions). Very little work has, however, focused on more recent agency officials. Kevin Parsneau's recent (2007) Ph.D. dissertation at the University of Minnesota-Twin Cities examined sub-cabinet appointments from President Kennedy to President George W. Bush through collection of a random selection of political executives. On a more detailed level, Richard Waterman and his co-authors (2007) have tried to measure the quality of ambassadorial appointments under Presidents George H.W. Bush and Clinton. The most comprehensive public collection of data on recent appointees is the Independent Regulatory

A pair of highly promising working papers (Lewis 2009; Horton and Lewis 2010) examines individual-level patronage appointments during the second term of President G.W. Bush and first term of President Obama, respectively. In the former working paper, Lewis (2009) uses subjective survey responses from an innovative new database that samples federal administrators and program managers during the 2007-2008 period (Clinton et al. n.d.). Besides using these survey data from the G.W. Bush administration, Horton and Lewis (2010) also analyze original objective data on Obama administration appointees, at all levels, during the first six months of his presidency. These papers find that presidents place patronage appointees in less visible positions and in agencies where they have similar policy preferences but are not central to their policy agenda. In other words, patronage appointees are “put out of sight” so that any damage that they may cause to the president’s governing reputation is limited. The focus of Horton and Lewis (2010) is limited, however, to predicting the assignment of patronage appointments to particular agencies, based on several independent appointee characteristics designed to measure background or expertise. Both the nature and extent to which such independent appointee characteristics are related to one another remain unknown since this is not the intended purpose of the Horton and Lewis research project.

By contrast, this study does consider how appointee characteristics are related to one another in estimating appointees’ latent traits for responsiveness (compliance) and expertise

Commissioner database, constructed by David Nixon, which covers all appointments to fifteen federal independent regulatory agencies from 1887 to 2000. Our database, like Nixon’s database and work by Horton and Lewis (2010), and unlike most other work, uses public data on a set of positions instead of surveys, so it does not suffer from subjective responses or selection issues. Our database is, however, more comprehensive than Nixon’s, most critically, covering both independent regulatory agencies and executive agencies and containing much more detailed biographical information. It is also more comprehensive than Horton and Lewis’s study, which covers only the first six months of the Obama administration, a small fraction of time compared to our database that runs from January 1977 to January 2009.

(competence), respectively. These connections are critical since one must arrive at an understanding of each agent's type before one can fully understand how principals (presidents) assign agents (appointees) to particular types of tasks (government agencies). Therefore, we begin with a "first principles" discussion of principal-agent theory as it relates to how a principal chooses agents. This discussion motivates the manner in which we subsequently define the key appointee traits of interest to the principal—compliance and competence.

Motivation from Principal-Agent Theory

Principal-agent theory is the most common approach for analyzing issues involving agent compliance and competence. On a normative level, principals seek agents who will faithfully implement their wishes (compliance), but are also effective in executing tasks (competence).⁴ An important consideration in measuring an agent's propensity for compliant behavior is to determine whether the behavior occurs *ex ante* or *ex post* selection by the principal. *Ex ante* compliance is observed prior to the agent being selected by the principal; whereas, *ex post* compliance is measured after the agent is selected by the principal. This distinction may initially appear trivial, but the type of behavior being considered dictates whether one's main interest lies in problems related to how principals select agents or problems related to agent shirking after agents have been selected by the principal (see

⁴ The literature describes agent compliance in one of four primary ways: explicit *ex post* controls such as oversight activities (e.g., Aberbach 1990; McCubbins and Schwartz 1984; Weingast 1984); *ex ante* controls such as "hardwiring" via rules or procedures (McNollGast 1987, 1989), and structural considerations (e.g., Moe 1989; Lewis 2003); preference alignment (e.g., Bawn 1995; Bendor & Meirowitz 2004; Huber and Shipan 2002); and implicit incentives pertaining to either career or reputational concerns of bureaucrats and their agencies (e.g., Alesina and Tabellini 2007; Carpenter 2002, 2004; Dewatripont, Jewitt, and Tirole 1999; Gailmard and Patty 2007, n.d.; Krause and Corder 2007; O'Connell 2007).

Fearon 1999). Because we are interested in agent selection, we focus on *ex ante* measurement of both agent compliance and competence.

The key to modeling *ex ante* agent behavior is to use information that a principal could have known at the time of her selection of an agent. To do otherwise is logically inconsistent with the principal-agent theory's premise that problems related to agent selection (adverse selection) are the result of the principal's choices. That is, a principal cannot be blamed for selecting the "wrong" agent if information that would have resulted in a better choice can be revealed only after her selection decision. In our analysis of both compliance and competence of presidential appointees to leadership positions within government agencies, we presume that presidents and their staff cull and analyze considerable information on prospective nominees prior to making final selections.

For assessing compliance, this information need not be limited to a proxy of prospective nominees' political ideology (e.g., partisanship and prior campaign donations to the appointing president). Rather, White House officials can look for other useful sources of information that may suggest whether an appointee will be responsive to the administration's policy goals. For example, individuals who have previously served in elective office should possess an acute sensitivity of being held accountable to a constituency. Or individuals who have prior experience working on behalf of the president's national political party organization (e.g., as a delegate or in a leadership role) may have tied their professional identity to an appointing president via a shared partisan affiliation. For examining competence, this information can include relevant technical, policy, and managerial expertise based on previous educational and professional experience. For instance, prospective nominees who possess abundant job-relevant skills for these appointive positions based on

their previously employment history should be more competent agency leaders than those who do not.

Defining Compliance as a Latent Concept

We conceive that the best proxy for agent compliance is the extent to which presidents and political executives possess shared professional and personal backgrounds—which may loosely be manifested in the form of shared preferences, as well as the latter’s actual service to the party, the president and his administration, or the presidency as an institution. This definition therefore does not tie compliance directly to policy preferences. Such preferences may result from shared backgrounds, but the focus is on more fundamental attributes for agent compliance rooted in both sociology and psychology that is also reflected in an emerging literature in organizational economics.

The definition draws from research on organizational commitment that arises from implicit incentives surrounding career concerns (e.g., Adolph 2004; Alesina and Tabellini 2007; Dewatripont, Jewitt, and Tirole 1999) or from an identity as a “team player” that serves an assigned role and function within the organization (e.g., Akerlof and Kranton 2005, 2010; March and Simon 1992). “Fealty to the purpose of the office” is part and parcel for accepting any subordinate position within an organization (Weber 1914 [1978]: 959). Agent fealty is especially critical for political executives, who must display loyalty to the president in the face of the centrifugal pressures emanating from external audiences such as Congress, clientele groups, to name just a few (Hess 1988: 183). While it is necessarily true an agent will generally comply with the principal’s wishes when they have the same preferences, the converse is not true. Put simply, an agent may exhibit fealty by choosing to comply with the principal’s wishes when they

have differing preferences. According to our definition, therefore, a compliant agent is one who will not only comply with the principal's wishes when they agree, but will also be faithful to the principal's wishes when they disagree (i.e., fealty). This view of agent compliance is thus more inclusive, rooted in agents placing a premium on serving a principal's interests, independent of whether their preferences are aligned with one another.

By allowing for both shared goals and fealty to define agent compliance, our conceptual approach thus comports with theoretical research on organizational compliance that claims formal authority mechanisms, such as explicit contracts, often fail to solve vertical coordination problems between the principal (supervisor) and agent (subordinate) (Miller 1992: 115-119). Rather, these hierarchical dilemmas require that principals and agents possess mutual trust in order to solve such thorny compliance issues since principals do not have the time, information, and expertise to monitor the agent with a high level of effectiveness (Brehm and Gates 1997; Miller 1992).⁵ Even if principals can effectively monitor an agent's behavior, principals' use of sanctions or outright removal incurs high costs that can serve to undermine their policy goals. Therefore, agent compliance is a more appropriate means for assessing agent responsiveness to appointing principals since it is rooted in the agent placing a premium on serving the principal's interests, independent of whether their preferences or goals are aligned. This type of principal-agent behavior is foundational to the exercise of modern executive authority since mutually effective bargaining relationships between the

⁵ Mutual trust is especially critical in the presence of numerous repeated interactions between principal and agent (Axelrod 1984). Such repeated interactions, and the resulting reputations that emerge, are critical for understanding agent compliance in a wide array of organizational settings.

president and their subordinates represent the basis for agent compliance (Dickinson 1997; Neustadt 1990).

Defining Competence as a Latent Concept

Principals also select agents based on the latter's competence to effectively perform tasks on the former's behalf (e.g., Alesina and Tabellini 2007; Dewatripont, Jewitt, and Tirole 1999; Holmstrom 1982). In many political science applications, especially those involving delegation to the bureaucracy, competence is typically associated with the specialized policy or technical expertise held by an agent (e.g., Bawn 1995; Epstein and O'Halloran 1999). Yet, agents are also entrusted with tasks that require not only technical or policy expertise, but also appropriate managerial skills. For example, presidents typically desire agency leaders that can serve as effective administrators (Mackenzie 1981; Michaels 1997; Weko 1995). That is, appointees possessing prior experience leading federal agencies possess a crucial advantage over policy experts who have not served in such a capacity. Therefore, any conceptual definition of agent competence must account for both technical/policy and managerial skills.

We define agent competence as the *quantity* and *quality* of an agent's qualifications for the given position that the agent is being selected to serve in by the principal. The "quantity" dimension provides useful information on the amount of prior education or experience. In other words, it provides information regarding how seasoned the agent actually is. The "quality" dimension provides information on the fit between the agent's skills and experiences and the type of expertise required for a given appointed position. For instance, it can demarcate between types of policy expertise in prior work experience

(technical versus managerial), plus the nature of how a given appointee's academic and professional training fits the responsibilities of the appointed position. Assessing competence in this manner provides a principal with the necessary information to gauge both the requisite qualifications and background experiences that make appointees suitable for the effective exercise of delegated authority.

In the realm of U.S. executive politics, as with compliance, presidents can use information on a prospective nominee's professional and educational background to infer the individual's level of bureaucratic competence (comprised of both technical/policy and managerial skills) before making the decision to appoint that person to a top agency position. As a result, we can evaluate a president's leadership selections and their implications for governance based on these "hiring decisions".

3. Data, Research Design, and Statistical Methods

To measure the characteristics of agency leaders selected by the president, we look to the firm analogy—specifically, how a firm (administration) hires a worker (appointee) by going through the latter's dossier to obtain a clear sense of not only their expected compliance to the firm, but also the worker's competence to serve in the position for which she is being hired. The measurement scheme that we adopt in this study has four desirable characteristics. First, the measures we produce are conceptually rooted in an understanding of principal-agent theory applied to hierarchical organizations. That is, we are concerned with measuring the two primary criteria presidents confront when selecting bureaucratic

agents: compliance (responsiveness) and competence (expertise).⁶ Second, we measure both criteria prior to the selection of officials for top agency positions. Examining these traits before government service not only allows us to assess presidents' important hiring decisions as of the time they are made, but also avoids methodological problems related to both post-treatment effects and endogeneity bias associated with most existing measures that rely on observed behavior of agents once they are in office.⁷ Third, because our measurement scheme relies on multiple objective indicators culled from appointees' professional and personal histories across a large swath of their adult life, we can be confident that these indicators provide a more nuanced composite of a particular agency leader than other more isolated pre-service measures. This composite likely will allow us to derive measures of agent compliance and competence that exhibit strong content validity and capture the full domains of the key traits. Finally, the measures we cull from such data will constitute more durable indicators for gauging an agent's "type" than those derived from particular episodic events like congressional testimony proceedings or expressed preferences on a small number of roll-call votes based on a survey cross-section.⁸

To derive these measures, we use a new large biographical database we have constructed on Senate-confirmed at-will and fixed-term officials, from the start of the Carter

⁶ We treat the president and the Presidential Personnel Office as one actor. To be certain, the president-PPO relationship is one of a principal and an agent, with its own adverse selection and moral hazard problems (see Weko 1995) for a discussion of this relationship under recent presidents).

⁷ Segal and Cover (1989) compute both *ex ante* ideological and qualifications scores for Supreme Court nominees. The Segal-Cover scores, however, are based on a content analysis of newspaper editorials from four major national sources (subjective assessment) and weighted equally (as opposed to weighted inductively or deductively using factor/latent trait analytic techniques). Newspaper editorials do not exist for a wide range of Senate-confirmed appointees.

⁸ Presidents will rarely have any direct information on their chosen nominees' policy preferences at the time of selection (see Nixon 2004). To infer such preferences from past positions in legislative institutions ignores how one's position and the nominating president may affect agent compliance.

presidency to the end of President George W. Bush administration (1977-2009). The period covers the modern administrative presidency era (Nathan 1975). In this time frame, there has been considerable consistency in White House treatment of federal agencies, including, for instance, centralized regulatory review of some kind. The period also makes data collection significantly more feasible. To date, we have collected information on U.S. federal government agency leaders from January 1977 to January 2009 in the following subset of offices: all Cabinet Secretaries and Deputy Secretaries; Administrators and Deputy Administrators (if Senate-confirmed) of major executive agencies;⁹ Chairpersons and Commissioners/ Board Members of major independent regulatory commissions/boards;¹⁰ and all Senate-confirmed positions (and any connected deputy positions that require Senate confirmation) listed in Trattner (2000), a non-partisan think-tank guide to important policy positions in U.S. federal government agencies.¹¹ In total, we have gathered data on 1,359

⁹ These positions include: Central Intelligence Agency (Director, Deputy Director); Environmental Protection Agency (Administrator, Deputy Administrator); General Services Administration (Administrator); National Aeronautics and Space Administration (Administrator, Deputy Administrator); Small Business Administration (Administrator, Deputy Administrator); Social Security Administration (Commissioner, Deputy Commissioner); U.S. Agency for International Development (Administrator, Deputy Administrator); U.S. Information Agency (Administrator); Office of Management and Budget (Director); and U.S. Trade Representative.

¹⁰ These agencies include: Civil Aeronautics Board; Consumer Product Safety Commission; Equal Employment Opportunity Commission; Federal Communications Commission; Federal Election Commission; Federal Energy Regulatory Commission; Federal Reserve Bank; Federal Trade Commission; Interstate Commerce Commission; National Labor Relations Board; National Transportation Safety Board; Nuclear Regulatory Commission; and Securities and Exchange Commission. Our database of independent regulatory commissions/boards contains more extensive biographical information than Nixon's database that was funded by NSF nearly a decade ago (250 variables in our database versus approximately 25 variables in Nixon's database, Source: Appendix 1 & 2, http://www2.hawaii.edu/~dnixon/IRC/irc_codebook_110.pdf).

¹¹ These positions include: Department of Agriculture (Under Secretary for Food, Nutrition, and Consumer Services, Under Secretary for Food Safety); Department of Commerce (Under Secretary for Export Administration, Assistant Secretary for Trade Development/Trade Promotion, Director of NIST, Director of Census, Under Secretary for Oceans and Director of NOAA, Under Secretary for Intellectual Property and Director of PTO); Department of Defense (Secretary of the Army, Secretary of the Air Force, Secretary of the Navy, Under Secretary for Acquisition, Technology and Logistics,

appointees (Executive Branch: 842 [62%], Independent Regulatory Commissions: 517 [38%]); not all of these appointees are unique, however.¹² From this biographical information, we construct a series of indicator variables that are plausibly related to appointee compliance and competence as latent traits. The latent traits are derived from the weighted combination of relevant indicator variables.

Appointee compliance to the president and the president's programmatic goals relies upon the appointee's individual characteristics (Gawthrop 1969: 143). Measuring such agent compliance is challenging if one seeks a durable measure that reflects both life choices and experiences, as well as one that is based on past, exogenous behavior. We believe that the

Director of Defense Research and Engineering, Assistant Secretary for Command, Control, Communications & Intelligence, Comptroller); Department of Education (Assistant Secretary for Elementary and Secondary Education, Assistant Secretary for Post Secondary Education, Assistant Secretary for Special Education and Rehabilitative Services, Assistant Secretary for Vocational and Adult Education, Assistant Secretary for Educational Research and Improvement); Department of Energy (Assistant Secretary for Environmental Management); Department of Health and Human Services (Administrator of FDA, Director of NIH, Administrator of Health Care Financing Administration (now Center for Medicare and Medicaid Services), Assistant Secretary for Children and Families); Department of Homeland Security (Administrator of FEMA); Department of Housing and Urban Development (Assistant Secretary for Housing and Federal Housing Commissioner); Department of Justice (Solicitor General, AAG for Antitrust, Administrator of DEA); Department of Labor (Assistant Secretary for Occupational Safety and Health, Assistant Secretary for Pension and Welfare Benefits, Assistant Secretary for Employment and Training); Department of State (Under Secretary for Political Affairs, Under Secretary for Arms Control and International Security Affairs); Department of Transportation (Administrator of NHTSA, Administrator of FAA); Department of Treasury (Commissioner of IRS, Assistant Secretary for Economic Policy, Assistant Secretary for Tax Policy, Assistant Secretary for Financial Markets, Assistant Secretary for Financial Institutions). For agencies that ceased operating during the period of our data (for instance, the U.S. Information Agency), we have the individuals who served up until that point. Some of these positions—head of the FDA and Assistant Secretary for Children and Families—did not initially require Senate confirmation. We have all individuals in those positions for the period of the data.

¹² An individual who served as an Assistant Secretary in the Treasury Department and later as Deputy Director of OMB between 1977 and 2009 has two observations. Likewise, an individual who served two terms at the FCC (and hence was nominated twice) during the time period has two observations. Finally, “holdover” appointees, who served more than 193 days past inauguration (for at-will positions) or 193 days past the scheduled end of term (for fixed-term positions) have an additional observation.

best proxy for agent compliance is the extent to which presidents and political executives share the same political orientation (inferred from partisanship and political investment) and the extent to which agency officials possess an organizational identity that suggests the ability of being a team player (inferred from past service to a political party organization or elected office), all measured at the time of nomination. This conceptualization assumes both common policy interests and a shared organizational identity are vital to understanding agent compliance. While the former component of agent compliance bears strong resemblance to the concept of the principal and the agent sharing the same views (e.g., preferences), this latter aspect is firmly rooted in the logic that agent compliance is dependent upon an individual's "identity" when serving in a particular job within an organization (e.g., Akerlof and Kranton 2005; March and Simon 1992; Weber 1914 [1978]).

Specifically, we employ the following indicator variables for appointee compliance: (1) whether the appointee shares the same party affiliation as the nominating president; (2) whether the appointee gave any monetary campaign contributions to the nominating president; (3) whether the appointee served in state government when the nominating president was governor; (4) whether the appointee has previous elective office experience; and (5) whether the appointee had any national party experience in either a leadership or delegate position. The first and second indicators target the shared political orientation/policy interests' component, while the latter set of indicators focus on the agent fealty/shared organizational identity (i.e., "team player") component.¹³

¹³ In preliminary analysis, we also considered the following indicator variables (measured at time of nomination) designed to tap into shared political orientation/policy interests: (1) whether the appointee lived at some point in the same state as the nominating president; (2) whether the appointee attended any of the same educational institutions as the nominating president (e.g., Harvard Business School or Yale College for President G.W. Bush appointees); and (3) whether the appointee campaigned or advised the nominating president. Alternative indicator variables considered to

As with compliance, appointee competence to perform agency tasks depends on the official's specific characteristics. Measuring agent competence is, however, much more straightforward than determining agent compliance. Presidents presumably evaluate agent competence at the time of the hiring decision on two categories of information: the quantity of the appointee's qualifications, primarily in terms of education and experience, and the quality of those qualifications, in terms of their connections to the agent's position. The *quantity* of political executives' qualifications is critical because it provides information on items such as how many degrees an appointee has, whether the appointee has certain categories of work experience, and how extensive that work experience is. The *quality* of job qualifications is also important because it can demarcate between types of policy expertise in prior work experience (technical versus managerial), as well as indicate the fit between an appointee's academic and professional training and the responsibilities of the appointed position.

We measure these aspects of competence with the following set of indicator variables: (1) how many of the four preceding jobs were related to the policy issues of the agency; (2) how many of these previous positions were related to managerial needs of the agency; (3) whether the appointee lived in the D.C. area at some point in the previous decade; (4) whether the appointee had any civil service experience; (5) whether the appointee had any agency-specific civil service experience; (6) whether the appointee had agency-specific appointed service; (7) whether the appointee had any non-military federal experience related to either the policy issues or managerial needs of the agency; and (8) temporally

account for shared organizational identity were (4) whether the appointee had worked as a congressional staff member; (5) whether the appointee previously served in an appointed full-time agency position; (6) whether the appointee served in the military; and (7) whether a reappointed independent regulatory commissioner was the same party of the nominating president.

detrended number of years agency experience.¹⁴ All of these indicators measure some aspect of quality, and some also capture attributes of quantity.

Although these thirteen indicators (covering compliance and competence) use only a fraction of our broader database, these indicators produced the most reliable model based on substantive and statistical criteria. As a result, our preliminary statistical evidence discussed in our next section on empirical findings is based on this set of indicator variables. Next, we turn our attention to the statistical methodology used to convert these indicator variables into latent trait measures of appointee compliance and competence, respectively.

Bayesian Generalized Latent Trait Analysis Using MCMC Simulation Methods

To estimate agent latent traits pertaining to compliance and competence measured on a continuous latent scale, we utilize indicator (observed) variables possessing several distinct types of measurement processes – i.e., continuous, categorical (binary and ordinal), and event count variables. This method is a generalization of factor analysis (continuous indicator variables) and item response models (binary indicator variables) since it accounts for a broad array of stochastic processes containing a mixture of probability distributions.

The generalized latent trait analysis estimated here takes the form of a two-factor confirmatory factor measurement model with correlated errors. Let us assume a p^{th} dimensional vector of “observed” indicator variables for the i appointee observations which

¹⁴ Other quantity indicators considered in preliminary analysis included: (1) the level of education the appointee obtained; (2) whether the appointee had any state or local bureaucratic experience; and (3) whether a reappointed independent regulatory commissioner was the opposite party of the nominating president. Other quality indicators considered in preliminary analysis included: whether any of the educational degrees were related to the (1) policy issues or (2) managerial needs of the agency; and (3) whether the appointee had any previous military experience related to the policy issues or managerial needs of the agency.

can be defined as $y_i^{*Loyalty}$ and $y_i^{*Competence}$ for the loyalty and competence latent concepts, respectively. The Confirmatory Latent Trait measurement model can be defined as follows:

$$y_i^{*Loyalty} = \nu + \Lambda \eta_i + \varepsilon_i, \quad (1)$$

and

$$y_i^{*Competence} = \omega + \Pi \theta_i + \zeta_i \quad (2)$$

where ν and ω are p and q -dimensional vectors of intercept terms that correspond to the observed indicator variables in each measurement equation, η and θ consists of $m=1$ and $n=1$ dimensional vectors of latent variables (i.e., factors) that are unobserved (i.e., compliance and competence) and Λ and Π are the corresponding $p \times 1$ and $q \times 1$ parameter matrix of factor loadings, ε and ζ are p and q -dimensional residual vector that is independent of other variables and its corresponding variance-covariance matrix is denoted as $\Theta = \rho(\varepsilon, \zeta)$. The indicator variables are represented by the following data generating processes:

for a continuous variable y_j :

$$y_{ij} = y_{ij}^* \quad (3a)$$

for a binary variable y_j :

$$y_{ij} = \begin{cases} 1 & \text{if } y_{ij}^* > \tau_j \\ 0 & \text{otherwise} \end{cases} \quad (3b)$$

for a categorical variable y_j , with C ordered categories:

$$y_{ij} = c, \text{ if } \tau_{j,c} < y_{ij}^* < \tau_{j,c+1} \quad (3c)$$

and for an event count variable y_j , with non-negative integer outcomes:

$$y_{ij} = \begin{cases} \frac{e^{-\lambda} \lambda^{y_{ij}^*}}{y_{ij}^*!} & \text{for } \lambda > 0 \text{ and } y_{ij}^* = 0, 1, 2, \dots \\ 0 & \text{otherwise} \end{cases} \quad (3d)$$

The confirmatory two-factor latent trait model is estimated via the posterior density of the parameter distributions for the slope, intercept, and loading parameters (\mathbf{v} , $\boldsymbol{\omega}$, $\boldsymbol{\Lambda}$, $\boldsymbol{\Pi}$), the variance-covariance parameters ($\boldsymbol{\varepsilon}$, $\boldsymbol{\zeta}$), and the latent variables of interest ($\boldsymbol{\eta}$, $\boldsymbol{\theta}$). The conjugate non-informative priors for all the free parameters (\mathbf{v} , $\boldsymbol{\omega}$, $\boldsymbol{\Lambda}$, $\boldsymbol{\Pi}$) are normally distributed with mean zero, and either a variance of 5 (binary probit link) or positive infinity (for all other probability distributions); the variance-covariance parameters ($\boldsymbol{\varepsilon}$, $\boldsymbol{\zeta}$) follow an inverse Wishart distribution containing a mean of 0 (non-binary probit links) or 1 (binary probit links) and a variance of 3; except for the variance parameters which are block diagonal of size 1, and hence follow an inverse gamma distribution with mean -1 and variance set equal to zero that is equivalent to a uniform prior on $[0, \infty)$.

Estimation of this Bayesian MCMC model is implemented via Gibbs sampling using the Metropolis-Hastings algorithm (e.g., Clinton, Jackman, and Rivers 2004; Martin and Quinn 2002). The specific analysis implemented here uses “plausible values” for these latent measures by treating the indicator variables as containing missing data on all observations (Asparouhov and Muthen 2010a, 2010b; von Davier, Gonzalez, and Mislevy 2009).¹⁵ This method effectively utilizes multiple imputation to generate plausible values consistent with

¹⁵ Because it draws from public materials, our database has missing information, but we wish to avoid sample selection bias by not engaging in listwise deletion of appointees with missing biographical information (King et al 2001). Therefore, we treat our missing data as missing at random (Little and Rubin 2002). Put simply, we assume that a missing cell is independent of other missing data but that the missing cell may depend on observed data. For instance, if those appointees who do not list any party affiliation in public sources can be predicted with type of employment (e.g., scientist), the missingness process is missing at random. Use of Bayesian MCMC methods provide us superior leverage on dealing with missingness since we resample these data based on the posterior distribution 500 times for each trait.

the observed data through 500 draws, which form the basis for the Bayesian posterior distribution for each indicator variable, and more importantly, generate the resulting latent factor estimates. These 500 draws produce an estimated Bayesian factor score corresponding to each appointee observation and latent concept (based on the posterior median of entire sampling distribution) and corresponding Bayesian 95% credibility interval that varies across individual appointees in our sample.

4. Empirical Findings

Table 1 reports the estimated two-factor correlated error measurement model that relies on indicator variables to derive estimates of appointee latent traits (compliance and competence) using Bayesian MCMC simulation methods. Interpretation of the coefficients and standard errors generated from Bayesian methods differ from standard frequentist statistical methods, which are based on a single set of estimates. Specifically, coefficients are simply the posterior mean contribution to the latent trait that is derived from 500 samples, and the standard error is simply the posterior standard deviation of this effect. The model is well specified given that it is the best fitting model that we have arrived at in our extensive preliminary analysis to date.¹⁶ More importantly, each of the indicator variables is positive and significantly correlated to each respective latent trait: compliance and competence.

[Insert Table 1 About Here]

Specifically, inspection of **Table 1**'s factor loading coefficient estimates reveals shared partisan affiliation, prior service to the nominating president when the latter was

¹⁶ In preliminary analysis using exploratory factor analysis with a broader set of manifest indicators, we found prior elective office to be the strongest item to be correlated with compliance as a latent concept, and prior federal experience as being most highly correlated with competence as a latent concept.

governor, national party service to the same party of the nominating president, and campaign contributions to the nominating president are each critically linked to prior experience in elective office. The regression results for the competence latent factor model show that both the quality and quantity of an appointee's qualifications are crucial. Specifically, both policy and managerial related job experience are important components of competency. Previous civil service experience and residing in the greater Washington, D.C. area at some point during the previous decade are also highly correlated with latent appointee competence. Finally, prior agency-specific experience, both in terms of temporally detrended amount and also the type of experience (civil or appointed), plays a key role in understanding latent competence.

The distributions of appointee compliance and competence scores, respectively, appear in **Figure 1**. The kernel density histogram of appointee compliance scores displays a relatively leptokurtic ("thin") distribution with the greatest density of observations falling between -0.25 and $+0.25$ (**Figure 1A**). The appointee competence scores (**Figure 1B**) possess greater variability vis-à-vis compliance scores in both absolute terms (range: 8.72 vs. 1.96) and relative terms where most of the observations are concentrated (interquartile range: 2.22 vs. 0.25). The appointee competence scores reveal a heavily platykurtic ("flat") distribution.

[Insert Figure 1 About Here]

Figure 2 reveals that both appointee compliance and competence have generally risen though time across different presidential administrations. These trends are not a function of our indicator variables since those exhibiting time trends (e.g., agency experience) have been

detrended.¹⁷ As one would expect, the Carter administration leadership appointees exhibit the lowest average compliance and competence scores, while the G.W. Bush appointees possess a high average compliance score. Yet, the low average compliance score for Reagan leadership appointees and high average competence score for G.W. Bush appointees challenge the conventional wisdom surrounding their administrative politicization efforts. While the Reagan administration may have placed a stronger emphasis on agency responsiveness to presidential objectives, for example, the individuals chosen to serve in agency leadership positions do not reflect this fact. These compliance and competence scores appearing in **Figure 2** provide *aggregate* insight into presidential appointment choices, while ignoring the institutional and organizational contexts. This is a critical limitation since appointment choices are based upon how insulated the agency is from presidential influence, and whether an individual is the chief political executive for a given agency. Accordingly, we turn our attention to breaking down these leadership appointee characteristics

[Insert Figure 2 About Here]

Figure 3A displays the average appointee compliance scores in our sample. Appointees in executive branch agencies or head supervisory positions possess higher compliance scores than their counterparts serving in independent regulatory commissions or subordinate positions. Not surprisingly, the group with the highest compliance scores are agency heads (*EB: Head Supervisors*), while the subset with the lowest compliance scores are independent regulatory commissioners, who normally face party balancing requirements (*IRC: Commissioners*). **Figure 3B** reveals nearly the exact opposite pattern as **Figure 3A**,

¹⁷ Although the amount of campaign contributions has a temporal trend, preliminary analysis revealed that a detrended version of this indicator produced the same substantive results as those with a binary donation indicator, but with inferior model fit.

except that IRC chairs, who can typically be demoted for any reason, are thought to be both more responsive and able than their the commissioners serving below them.

[Insert Figure 3 About Here]

Analysis of Compliance-Competence Tradeoffs

The bivariate relationship between appointee compliance and competence is assessed in this subsection. **Figure 4** lists the Lowess smoothing plot of appointee compliance (*vertical axis*) and appointee competence (*horizontal axis*) measures for our entire sample comprised of 1359 observations. The correlation between these two latent trait measures is -0.324. The graphical pattern reveals three clusters of appointee compliance: the upper level is mostly represented by agency heads in executive branch agencies, and the lower level is disproportionately held by IRC commissioners. This pattern reveals that there are more individuals with above average compliance and competence scores (upper right quadrant) than with below average compliance and competence scores (lower left quadrant).

[Insert Figure 4 About Here]

To provide some context for these compliance and competence scores, consider some types of agency officials. One category, high compliance and competence, is the gold standard for a president. Donald Hodel (compliance=0.62; competence=1.80), when President Reagan nominated him as Secretary of Interior in 1985, was a rare example. In the preceding years of Reagan's administration, he had already served as Under Secretary at the Department of the Interior and as Secretary of Energy; he also worked in appointed positions in previous administrations. A Republican, he campaigned for President Reagan and had prior national party experience. Another category, low compliance and competency, is not attractive but is likely less costly to find. When President Reagan nominated Lauro Cavazos

(compliance=-0.57; competence=-2.29) as Secretary of Education near the end of his administration in 1988, Cavazos had no federal government experience of any kind, and no real connection to Reagan. He was selected, it appears, because he was Hispanic and was seen as electorally valuable to George H.W. Bush's campaign. When Bush kept him on in the job, he had many more qualifications simply from having been in the position. The mixed categories appear more populated, which accords with the intuition that presidents trade off between compliance and competence, at least to some degree.¹⁸

Figure 5A reveals that the compliance-competence tradeoffs are more acute for certain types of agencies under different presidential administrations. Specifically, these tradeoffs have generally declined through time across administrations. Moreover, the compliance-competence tradeoff gap between executive branch agencies and independent regulatory commissions has also generally declined through time. Based on our preliminary analysis, this pattern is not attributable to temporal trends in our data, but instead reflects an actual decoupling of responsiveness and expertise considerations when hiring individuals in agency leadership positions. Yet, because our sample does not include lower level appointees (e.g., SES and Schedule C), it is quite possible that this tradeoff shows up in these positions

¹⁸ One such category, high compliance and low competence, captures loyalists with few apparent qualifications for the position at the time of nomination beyond partisan affinity or ability to be a good team player. Some agencies have multiple examples. For instance, both Richard Riley (compliance=0.47; competence=-1.01) and Roderick Paige (compliance=0.50; competence=-2.51), nominated in the first year of the administrations of Presidents Clinton and George W. Bush, respectively, as Secretary of Education had close connections to their nominating president but no federal education experience. To be sure, Riley did have some prior federal appointed experience and Paige had some state level experience. Several former Secretaries of Commerce show similar profiles. Another such category, low compliance and high competence, covers highly qualified officials who lack attributes of loyalists. Other agencies have multiple examples. For example, several Under Secretaries of State for Political Affairs have been former agency careerists (i.e., foreign service officers) with few political ties who were selected for the position. Thomas Pickering (compliance=-0.22; competence=4.38) nominated in 1997, Marc Grossman (compliance=-0.19; competence= 3.02) nominated in 2001, Nicholas Burns (compliance=-0.78; competence=3.10) selected in 2005, and William Burns (compliance=-0.41; competence=3.43) appointed in 2008 are four such leaders. Several top officials from the Central Intelligence Agency also have similar traits.

where starker choices involving patronage and loyalty are weighed against policy and managerial expertise (see Lewis 2008).

Figure 5B offers a revealing portrait of these compliance-competence tradeoffs based on agency design and organizational position considerations. Clearly, presidents exhibit stronger tradeoffs between compliance and competence when filling leadership positions in executive branch agencies than staffing independent regulatory commissions. This is hardly surprising since the latter agencies are insulated from presidential control via partisan balancing requirements, staggered terms, and multiple members (Lewis 2003). Also, such tradeoffs are more acute for supervisory leadership positions (i.e., agency head or commission chair) than for subordinate leadership positions. This hints at presidents' desire for strong responsiveness from those closest to them, even at the expense of policy and managerial expertise.

[Insert Figure 5 About Here]

Are Ideal Point Estimates Related to Appointee Compliance Scores?

Next, we assess the extent that absolute ideological distance between presidents and their appointed cabinet secretaries for a sample of 46 considered by Bertelli and Grose (2007, 2009, n.d.) are related to the appointee compliance scores. We expect that the relationship should be ambiguous since the appointee compliance scores reflect shared political orientation, which should be inversely related to the Bertelli-Grose absolute ideological distance measure, but also fealty, which should not. To assess the relationship between these sets of measures, we first regress the absolute ideological distance measure on the Bayesian posterior median appointee compliance score. The results in **Model 1** do indicate that absolute presidential-cabinet secretary ideological distances are inversely related to appointee

compliance scores. Because they are not on directly comparable metric scales, we limit our attention to the coefficient sign and significance.

In addition, we assess the relationship between the Bertelli-Grose ideological measures and the “plausible values” of the individual indicators that are used to generate the appointee compliance scores. **Model 2** contains only the shared political orientation indicators. This regression reveals that a shared partisan affiliation between the president and cabinet secretary, and not prior campaign contributions made by the latter to the former, results in greater ideological affinity. **Model 3** only includes the fealty subset of indicator variables. Interestingly enough, prior national party service by cabinet secretaries is inversely related to their ideological affinity with the appointing presidents whom they serve. Yet, prior service in state government by a cabinet secretary when the president was serving as governor reveals greater ideological divergence between these individuals. Recall that individuals chosen based on prior service in state government are people whom can be trusted for being a subordinate loyalty, not necessarily those who share similar policy preferences with the president. **Model 4** incorporates all five indicators that comprise this limited subset of the cabinet secretaries’ compliance scores. The significant, inverse relationship between prior national party service by cabinet secretaries and ideological affinity with appointing presidents is eliminated when the shared partisan affiliation indicator is also included.

[Insert Table 2 About Here]

5. Conclusion

We advance novel latent trait measures of agent compliance and competence applied to the study of presidential appointments to U.S. federal agency leadership positions. We begin by defining core traits of interest to a president when selecting an agent to serve in a federal agency on the president's behalf. This definition is rooted in an interdisciplinary focus of organizational theory. As a result, our focus is on the president's expectation of agent responsiveness to the president's goals (*compliance*), and agent expertise applied to the position the official is being hired to serve (*competence*). This approach deviates from existing studies that restrict their attention to only one component of compliance, that of shared preferences/values. Instead, we consider this aspect, as well as compliance attributable to agent fealty.

We use objective new data culled from biographical information on a large sample of presidential appointees to agency leadership positions to construct indicators that are related to appointee compliance and competence, respectively. In turn, these indicators are used to derive Bayesian generalized latent trait estimates of appointee compliance and competence based on personal and professional histories known by the president and her staff known at the time of nomination. These latent appointee traits have the advantage of being rooted in observed characteristics of individuals rooted in their actual behavior. The application of generalized latent trait analysis in this study allows us to jointly model indicator variables possessing different underlying probability distributions in a measurement model. Moreover, the use of Bayesian MCMC simulation methods allows us to compute individual-level measures of uncertainty regarding agent traits. This is especially useful since presidents are not equally informed (certain) about every selected official's core agent traits.

Our preliminary results provide tentative answers to two central questions of executive and bureaucratic politics. First, they suggest that the selection of appointees is not homogenous. Variation exists by administration, party, agency structure, and level of position, and most of this variation is statistically meaningful. Second, the results reveal variable tradeoffs between appointee compliance and competence. In sum, these results draw from novel (to political science) methods to provide detailed new information about top-level agency leaders, who play important roles in democratic governance, and about the adverse selection problem facing presidents. Ultimately, these appointee compliance and competence estimates can be used to further our scholarly understanding of strategic appointment selection in U.S. federal government agencies during the administrative presidency era, and its consequences for both policymaking and administrative behavior.

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TABLE 1

**Generalized Latent Trait Analysis of Appointee Compliance and Competence:
(Bayesian MCMC Estimation)**

Variables	Compliance Latent Factor			Competence Latent Factor		
	Posterior Estimate	Posterior SD	P-value	Posterior Estimate	Posterior SD	P-value
<i>Prior Elective Office (Fixed Indicator)</i>	1.000	0.000	_____	_____	_____	_____
Shared Partisan Affiliation	2.472	0.860	0.000	_____	_____	_____
Prior Campaign Contributions	0.656	0.151	0.000	_____	_____	_____
Prior Gubernatorial Service	0.463	0.232	0.009	_____	_____	_____
Prior National Party Service	3.165	0.787	0.000	_____	_____	_____
<i>Prior Federal Experience (Fixed Indicator)</i>	_____	_____	_____	1.000	0.000	_____
Prior Policy-Related Employment	_____	_____	_____	0.243	0.028	0.000
Prior Managerial Related Employment	_____	_____	_____	0.609	0.052	0.000
Prior Civil Service Experience	_____	_____	_____	0.306	0.037	0.000
Prior DC Residency	_____	_____	_____	0.528	0.058	0.000
Prior Civil Position in Agency	_____	_____	_____	0.331	0.046	0.000
Prior Appointed Position in Agency	_____	_____	_____	1.036	0.135	0.000
Detrended Amount of Experience in Agency	_____	_____	_____	2.042	0.202	0.000
Ancillary Statistics						
Residual Correlation Between Latent Factors			-0.213	0.059	0.000	
Number of Observations			1359			

FIGURE 1

**Kernel Density Estimates of Appointee Compliance and Competence Scores:
Carter through G.W. Bush Administrations**

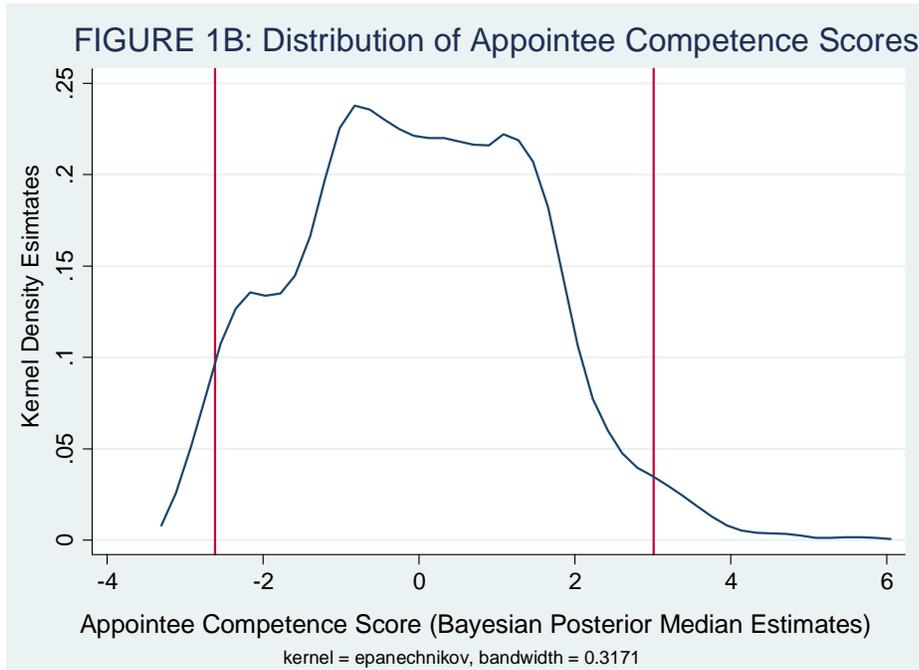
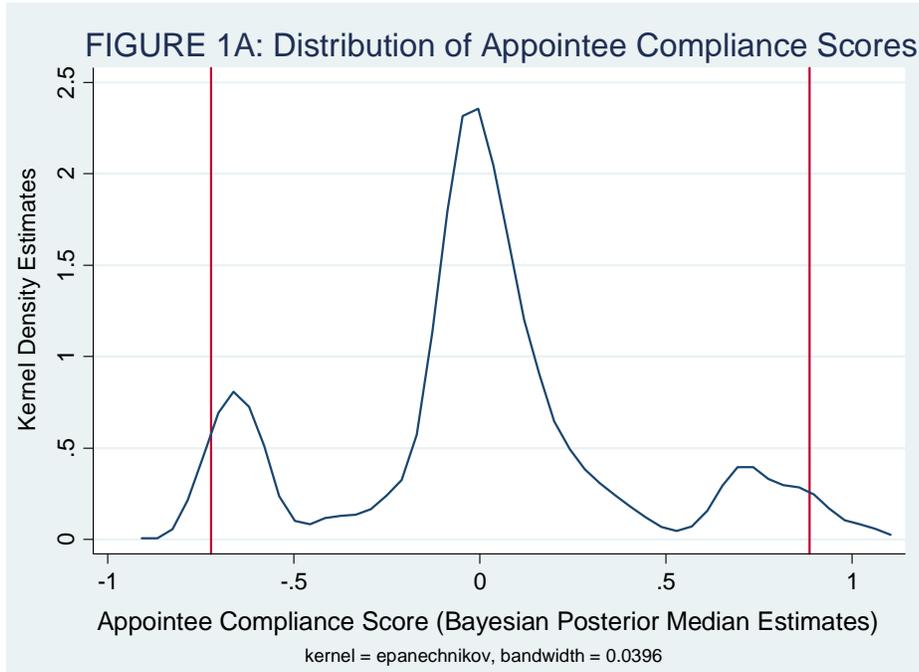


FIGURE 2

**Average Appointee Compliance and Competence Scores:
by Presidential Administration**

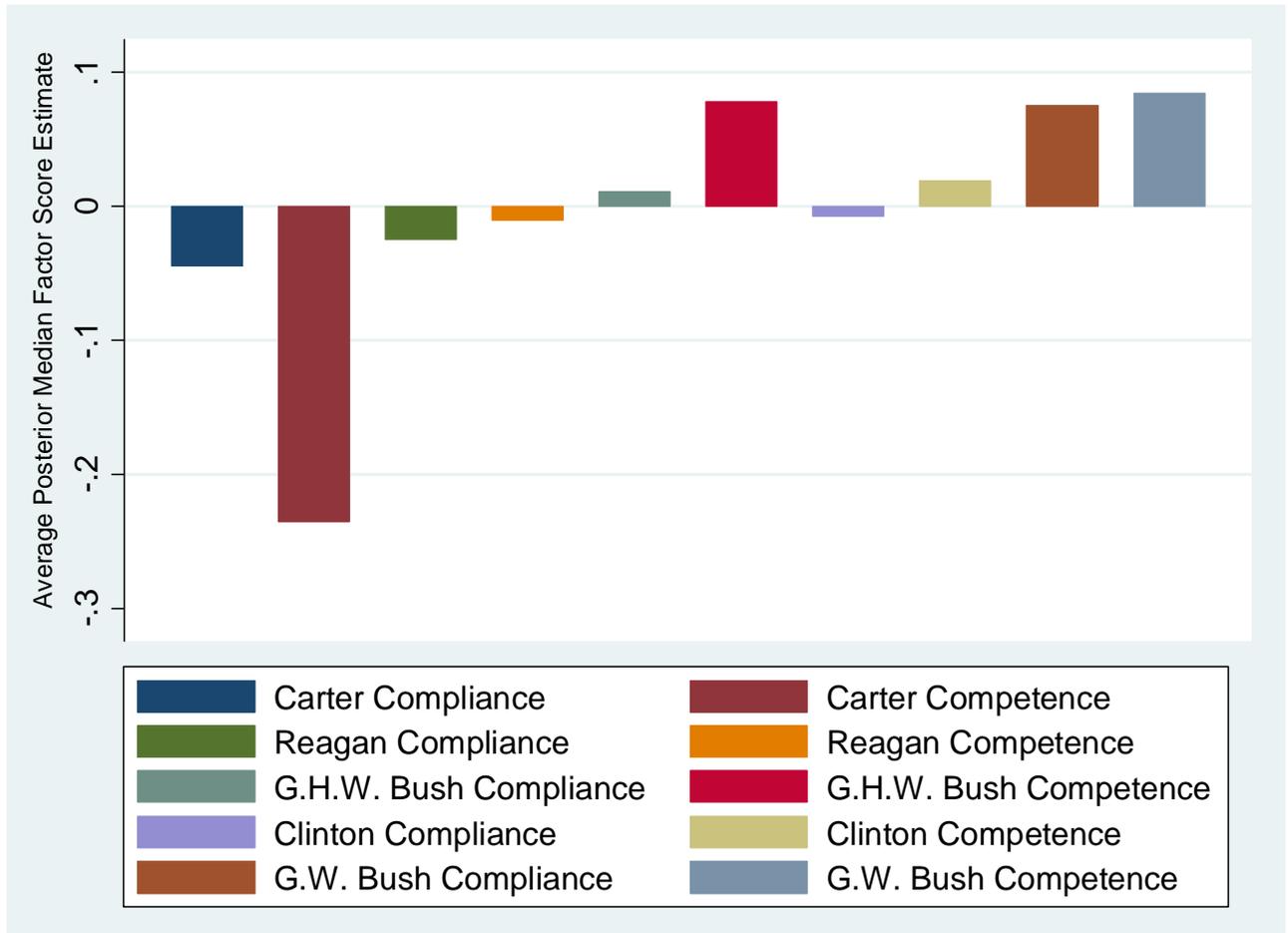


FIGURE 3

**Average Appointee Compliance and Competence Scores:
by Agency and Agent Type**

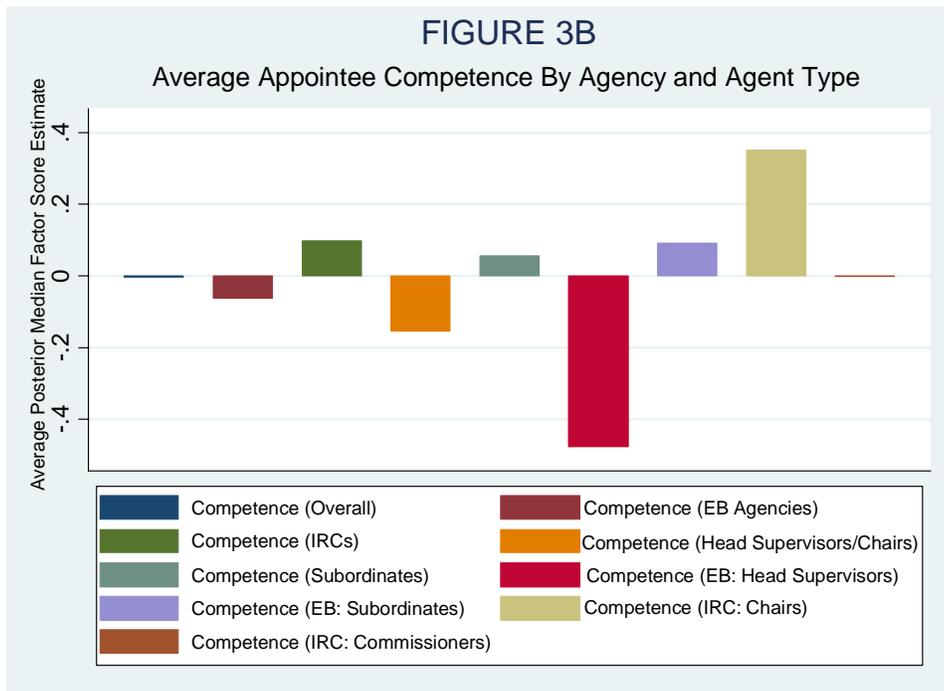
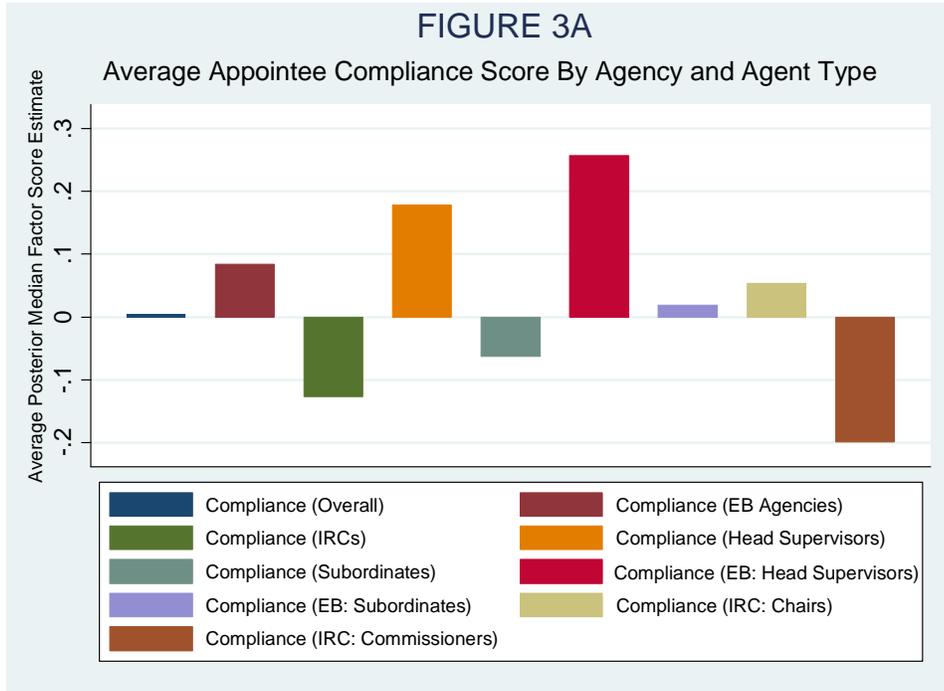


FIGURE 4

Bivariate Scatter and Lowess Plots: Appointee Compliance and Competence Scores (Full Sample)

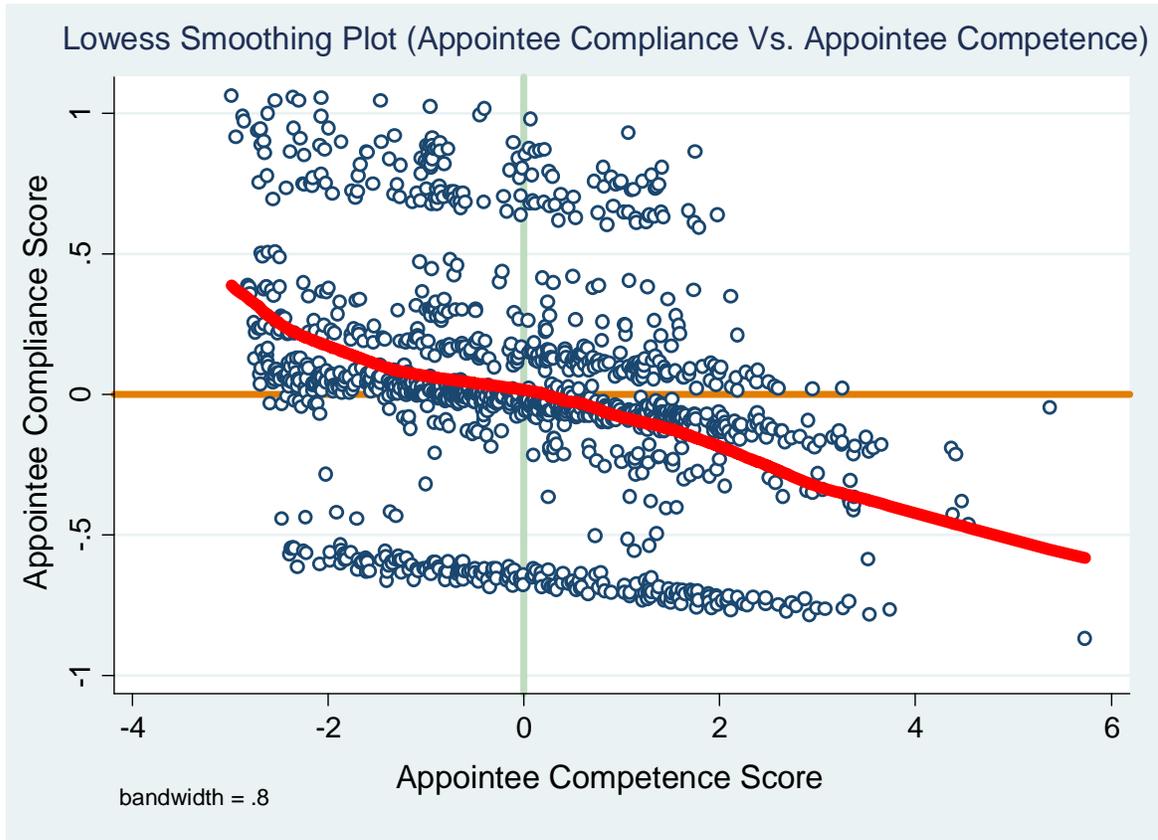


FIGURE 5

**Bivariate Correlation Between Appointee Compliance and Competence Scores:
by Administration, Agency, and & Agent Type**

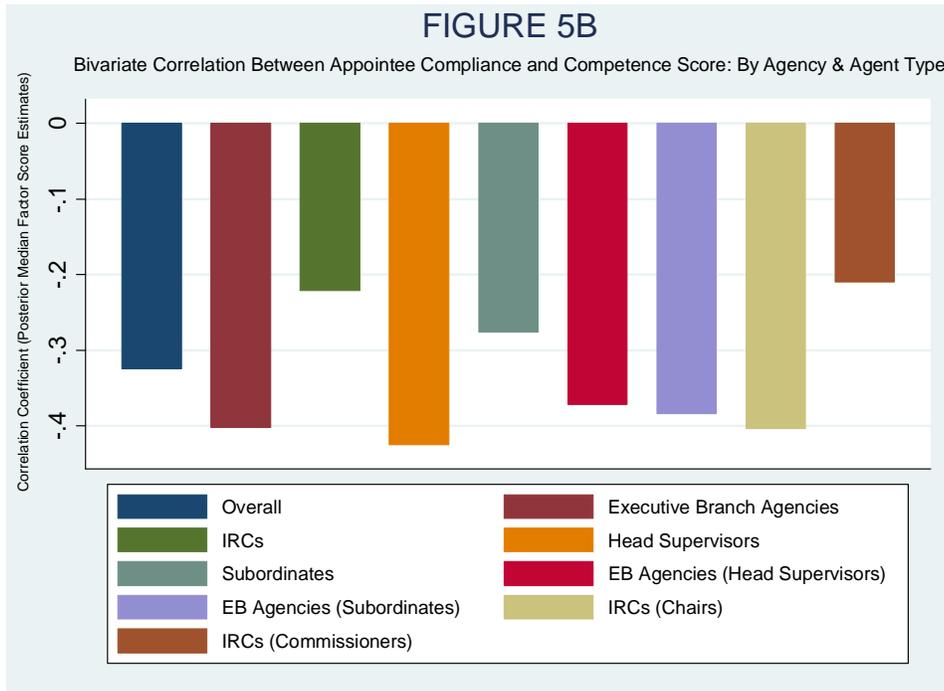
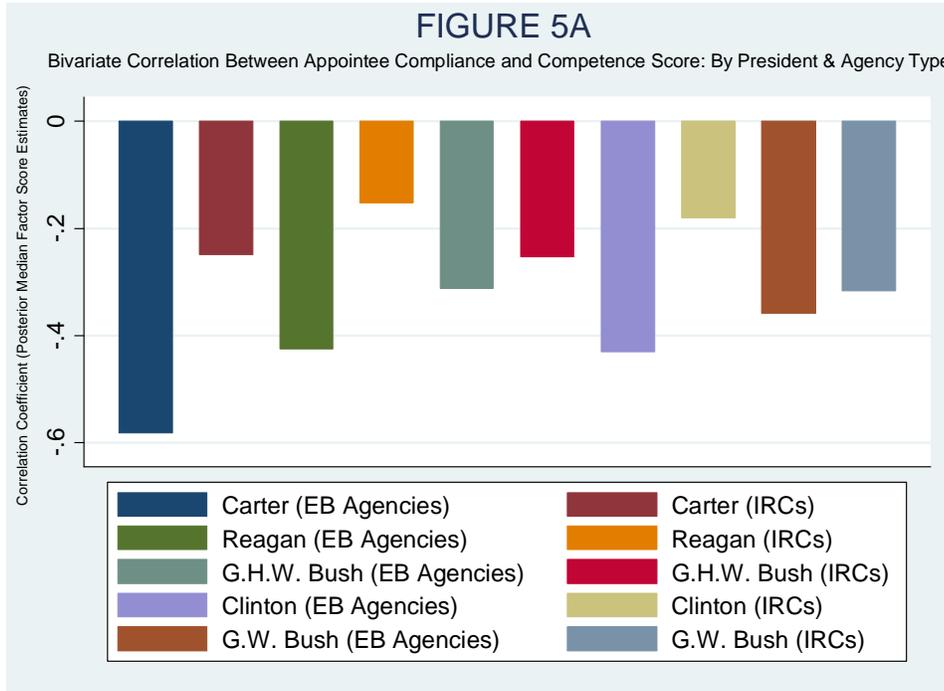


TABLE 2

Analyzing the Relationship Between President-Cabinet Secretary Absolute Ideological Distance and Appointee Compliance Scores: U.S. Cabinet Secretaries (N = 46)

Appointee Covariate	Model 1	Model 2	Model 3	Model 4
Appointee Compliance	-0.086* (0.059)	_____	_____	_____
Shared Partisan Affiliation	_____	-0.035* (0.022)	_____	-0.081* (0.050)
Prior Campaign Contributions	_____	0.015 (0.042)	_____	0.008 (0.042)
Prior Gubernatorial Service	_____	_____	0.171*** (0.024)	0.189*** (0.015)
Prior Elective Office	_____	_____	0.016 (0.027)	0.014 (0.037)
Prior National Party Service	_____	_____	-0.045** (0.021)	0.011 (0.056)
Constant	0.498*** (0.033)	0.490*** (0.034)	0.473*** (0.035)	0.475*** (0.051)
R²	0.0284	0.0375	0.1283	0.1536

Note: Bertelli-Grose ideal point estimates are based on Bayesian posterior mean values. Appointee Competence scores are based on Bayesian posterior median values. Individual components of Appointee Compliance scores are Bayesian posterior median plausible values of these indicator variables. Standard errors are clustered by agency.

* significant at the 0.10 level

** significant at the 0.05 level

*** significant at the 0.01 level.