THE YALE LAW JOURNAL

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Agency Design and Political Control

ABSTRACT. Although historical debates about the separation of powers focus on Congress, the President, and the Judiciary, in modern times, the bureaucracy is the elephant in the room. In a world of seemingly inevitable widespread congressional delegation to administrative agencies, as well as the Supreme Court's blessing of independent agencies, how exactly is the fourth branch of government to be controlled? The canonical answer in administrative law, constitutional law, and political science, is agency design. By carefully selecting structural features of administrative agencies and requiring the use of specific decision-making procedures for policy-making, the legislature and the executive can ensure responsive and accountable bureaucracy—or so the argument goes. As Congress continues to create ever more agencies using ever more variations in institutional structure, and as the Supreme Court continues to grapple with which features of administrative are constitutional, the stakes of these conceptual debates have risen steadily. Indeed, we are in the midst of something of an agency design renaissance—a time period of fundamental change with respect to the federal bureaucracy—deriving mainly, although not exclusively, from the emergence of new administrative forms.

Unfortunately, there is virtually no empirical scholarship that demonstrates a link between agency design and political responsiveness or agency behavior. This is due not to a lack of attention but to a fundamental problem of research design and the institutional landscape of administrative agencies. To address this question, scholars have studied individual agencies to document political influence exerted by Congress or the president in a specific policy domain. Such studies of individual agencies are important, but also analytically incapable of identifying the role of agency design in political responsiveness for two reasons. First, the relevant institutional features almost never vary within a single agency. Second, most policy outputs—where one would look to see evidence of political control—are not readily comparable across agencies. As a consequence, there has been little quantitative scholarship that establishes a link between agency design and a similar agency output across agencies or over time. This Essay focuses on an activity common to and comparable across many agencies—the distribution of federal moneys—to answer one of the most basic questions for agency design. We show that a prominent structural feature of agency design— the extent of high-level personnel politicization—affects the degree of political responsiveness by agencies

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INTRODUCTION

Although historical debates about the separation of powers focus on the interactions between Congress, the President, and the Judiciary, in modern times, the bureaucracy is the elephant in the room.[1] In a world of seemingly inevitable widespread congressional delegation to administrative agencies and the Supreme Court's growing acceptance of independent agencies,[2] how exactly do we hold accountable the fourth branch of government? The canonical answer in administrative law, constitutional law, and political science is *agency design*.[3] By carefully selecting structural features of administrative agencies and requiring the use of specific decision-making procedures, Congress and the President can ensure responsive and accountable bureaucracy, or so the argument goes. As Congress continues to create agencies with increasingly varied structure — and as the Supreme Court continues to grapple with the constitutionality of those structures[4] — the stakes of these conceptual debates are on the rise.[5] Alt-

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1. *See, e.g.*, Dep't of Transp. v. Ass'n of Am. R.Rs., 135 S. Ct. 1225, 1233 (2015) (finding Amtrak to be "an agency or instrumentality of the United States for the purpose of individual rights"); Perez v. Mortg. Bankers Ass'n, 135 S. Ct. 1199 (2015) (analyzing the procedures agencies must follow in issuing a new interpretation of a regulation); Free Enter. Fund v. Pub. Co. Accounting Oversight Bd., 561 U.S. 477 (2010) (analyzing the constitutionality of the Board members' removal procedure for the Public Company Accounting Oversight Board (PCAOB)); *see also* Peter L. Strauss, *The Place of Agencies in Government: Separation of Powers and the Fourth Branch*, 84 COLUM. L. REV. 573, 578-79 (1984) (endorsing an analytical approach that "view[s] all government regulators" as "joining judicial, legislative and executive functions, yet falling outside the constitutionally described schemata of three named branches" (emphasis omitted)).

2. *See, e.g.*, *Free Enter. Fund*, 561 U.S. 477; Morrison v. Olson, 487 U.S. 654 (1988); Humphrey's Ex'r v. United States, 295 U.S. 602 (1935).

3. For an overview, see Jacob E. Gersen, *Designing Agencies*, *in* RESEARCH HANDBOOK ON PUBLIC CHOICE AND PUBLIC LAW 333 (Daniel A. Farber & Anne Joseph O'Connell eds., 2010).

4. *See, e.g.*, Jacob E. Gersen, *Administrative Law Goes to Wall Street: The New Administrative Process*, 65 ADMIN. L. REV. 689 (2013) (discussing the new forms of agency structure in the financial regulation agencies).

5. In the 2014 Term, the Court issued two opinions in which bureaucratic accountability was the core theme. *See Ass'n of Am. R.Rs.*, 135 S. Ct. 1225; *Perez*, 135 S. Ct. 1199. One of the Roberts Court's landmark decisions was clearly *Free Enterprise Fund*, 561 U.S. 477. In this case, the Court invalidated a provision of the Sarbanes-Oxley Act that sought to insulate the Public Company Accounting Oversight Board (PCAOB) from political interference by mandating that PCAOB Commissioners could be removed only by the Securities and Exchange Commission (SEC) for "good cause." Because the SEC Commissioners were assumed to be removable by the President only for good cause, this created "double for-cause" removal protection for PCAOB Commissioners. According to Chief Justice Roberts's majority opinion, this scheme was unconstitutional, primarily because it undermined the PCAOB's accountability to the President, and therefore to the citizenry. *See id.* at 494-99, 513.

hough the pace at which new agencies are created has slowed, the past several years have nevertheless seen the creation of several new agencies within the federal bureaucratic apparatus, particularly in the financial regulation sector.[6] Indeed, we are in the midst of something of an agency design renaissance—a period of fundamental change with respect to the federal bureaucracy— deriving mainly, if not exclusively, from the emergence of new administrative forms.[7]

Unfortunately, there is virtually no empirical scholarship that demonstrates a link between agency design and political responsiveness. This is due not to a lack of attention but to a fundamental problem of research design arising from the institutional landscape of administrative agencies. Previous literature large- ly focuses on the study of individual agencies to document political influence exerted by Congress or the President on a specific policy domain—for example, showing how congressional views affect a specific agency's rulemaking or adju- dication decisions.[8] Such studies of individual agencies are important, but also

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6. *See* Gersen, *supra* note 4; *Recent Legislation: Administrative Law—Agency Design—Dodd-Frank Act Creates the Consumer Financial Protection Bureau*, 124 HARV. L. REV. 2123 (2011).

7. *See* Gersen, *supra* note 4.

8. This literature is fairly large, but generally follows Barry R. Weingast & Mark J. Moran, *Bu- reaucratic Discretion or Congressional Control? Regulatory Policymaking by the Federal Trade Commission*, 91 J. POL. ECON. 765 (1983). For other examples, see Malcolm B. Coate et al., *Bureaucracy and Politics in FTC Merger Challenges,* 33 J.L. & ECON. 463 (1990), on the Federal Trade Commission; James M. De Vault, *Congressional Dominance and the International Trade Commission*, 110 PUB. CHOICE 1 (2002), on the International Trade Commission; Thomas W. Gilligan et al., *Regulation and the Theory of Legislative Choice: The Interstate Commerce Act of 1887*, 32 J.L. & ECON. 35 (1989), on the Interstate Commerce Commission; John A. Hird, *The Political Economy of Pork: Project Selection at the U.S. Army Corps of Engineers*, 85 AM. POL. SCI. REV. 429 (1991), on the Army Corps of Engineers; George A. Krause, *Federal Reserve Policy Decision Making: Political and Bureaucratic Influences*, 38 AM. J. POL. SCI. 124 (1994), on the Federal Reserve; Terry M. Moe, *Control and Feedback in Economic Regulation: The Case of the NLRB*, 79 AM. POL. SCI. REV. 1094 (1985), on the National Labor Relations Board; Mi- chael R. Moore et al., *Testing Theories of Agency Behavior: Evidence from Hydropower Project Relicensing Decisions of the Federal Energy Regulatory Commission*, 77 LAND ECON. 423 (2001), on the Federal Energy Regulatory Commission (FERC); Evan J. Ringquist, *Political Control and Policy Impact in EPA's Office of Water Quality*, 39 AM. J. POL. SCI. 336 (1995), on the Envi- ronmental Protection Agency's (EPA) Office of Water Quality; Paul A. Sabatier et al., *Hier- archical Controls, Professional Norms, Local Constituencies, and Budget Maximization: An Analy- sis of U.S. Forest Service Planning Decisions*, 39 AM. J. POL. SCI. 204 (1995), on the Forest Service; John T. Scholz & B. Dan Wood, *Controlling the IRS: Principals, Principles, and Public Administration*, 42 AM. J. POL. SCI. 141 (1998), on the Internal Revenue Service; David B. Spence, *Managing Delegation Ex Ante: Using Law To Steer Administrative Agencies*, 28 J. LEGAL STUD. 413 (1999), on the FERC; B. Dan Wood, *Does Politics Make a Difference at the EEOC?* 34 AM. J. POL. SCI. 503 (1990), on the Equal Employment Opportunity Commission; and B.

analytically incapable of identifying the role of agency design in political responsiveness. First, the relevant institutional features almost never vary within a single agency. If a multi-member board governs the agency, then a multi-member board likely always governs the agency; therefore, one can infer nothing about whether board structures undermine political accountability by observing only a single agency. Second, most policy outputs—where one would look to see evidence of political control—are not readily comparable *across* agencies. The degree of political responsiveness evident in different agencies' regulations or enforcement decisions is nearly impossible to compare because there is no obvious metric. What does it mean to say that a new Clean Air Act regulation promulgated by the Environmental Protection Agency was more responsive—to the concerns of Congress or the President—than a recent decision by the Federal Trade Commission to prohibit a proposed merger? Without the ability to identify and measure some common policy output, inferences about the role of agency structures on policy decisions are impossible as well. As a consequence, there has been very little quantitative scholarship that establishes a link between agency design and a similar agency output across agencies or over time.[9]

This Essay focuses on an activity common to and comparable across many agencies: the distribution of federal moneys. A focus on federal spending, in and of itself, is not novel. Within political science and economics, the so-called "pork barrel" or distributive politics literature has long focused on the allocation of federal funds to different states or congressional districts. Most recent scholarship, however, has focused almost exclusively on Congress's appropriation decisions.[10] This narrowness is unfortunate because after Congress au-

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Dan Wood, *Principals, Bureaucrats, and Responsiveness in Clean Air Enforcements*, 82 AM. POL. SCI. REV. 213 (1988), on the EPA.

9. Professor David Lewis has evaluated the link between agency design and program performance, essentially asking whether political appointees make bad bureaucrats or bad policy. DAVID E. LEWIS, THE POLITICS OF PRESIDENTIAL APPOINTMENTS: POLITICAL CONTROL AND BUREAUCRATIC PERFORMANCE (2008). This is a different issue than agency responsiveness per se.

10. Professors Anthony Bertelli, Christian Grose, and Michael Ting have reached the same conclusion. *See* Anthony M. Bertelli & Christian R. Grose, *Secretaries of Pork? A New Theory of Distributive Public Policy*, 71 J. POL. 926, 927 (2009); Michael M. Ting, *Legislatures, Bureaucracies, and Distributive Spending*, 106 AM. POL. SCI. REV. 367, 367 (2012). As discussed below, this was actually not the case with early distributive politics scholarship. For example, Professor Douglas Arnold was expressly concerned with spending decisions made by the bureaucracy. *See* R. DOUGLAS ARNOLD, CONGRESS AND THE BUREAUCRACY: A THEORY OF INFLUENCE (1979). A pocket of recent distributive politics literature has focused on the President rather than agencies. *See, e.g.*, Christopher R. Berry, Barry C. Burden & William G. Howell, *After Enactment: The Lives and Deaths of Federal Programs*, 54 AM. J. POL. SCI. 1

thorizes and appropriates funds, the ultimate allocation decisions—who gets what money—are almost always made by the bureaucracy.[11] Importantly, this is true not only for general programmatic appropriations—those lacking earmarks designating recipients—but also for the vast bulk of earmarked appropriations. Most earmarks are contained in committee reports or other parts of the legislative history of a bill, none of which are formally enacted as part of the statute.[12] Earmarks are not, therefore, legally binding on the agencies.[13] Agencies, of course, might well exercise their discretion to implement whatever legislative deal was *actually* struck in the Congress—including all earmarks. But given the familiar principal-agent problem between the bureaucracy and political principals,[14] there is no shortage of reasons that an administrative agency might not perfectly implement legislative goals. So long as agencies act as intermediaries in the process of allocating federal dollars, the failure to account for the bureaucracy is a potentially consequential omission. Using the data and methodology from distributive politics, this Essay fills that gap and provides a straightforward way to test the degree of agency structure's effects on allocation decisions.

We base our empirical strategy on the standard methodology in distributive politics. In distributive politics, to study the central question of who gets what from the federal budget for what reason, researchers focus on the receipt of federal funds by a congressional district and ask whether the level of funding increases or decreases when the district is represented by a member of the majority party in the House or the Senate or by a ranking party member or committee chair and so on.[15] Conceptually, our strategy goes one step further: be-

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(2010); Nolan M. McCarty, *Presidential Pork: Executive Veto Power and Distributive Politics*, 94 AM. POL. SCI. REV. 117 (2000); Nolan McCarty, *Proposal Rights, Veto Rights, and Political Bargaining*, 44 AM. J. POL. SCI. 506 (2000). But for one reason or another, the pork-barrel politics literature evolved to be almost exclusively focused on the legislature.

11. *See* 2 U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-04-261SP, PRINCIPLES OF FEDERAL APPROPRIATIONS LAW 3 (3d ed. 2004).

12. *See* SCOTT A. FRISCH, THE POLITICS OF PORK: A STUDY OF CONGRESSIONAL APPROPRIATION EARMARKS (1998); ALLEN SCHICK, THE FEDERAL BUDGET: POLITICS, POLICY, PROCESS (3d ed. 2000); Michael H. Crespin et al., *Perception and Reality in Congressional Earmarks,* 7 FORUM, July 2009, art. 1.

13. 2 U.S. GOV'T ACCOUNTABILITY OFFICE, *supra* note 11, at 2-3.

14. *See* JOHN D. HUBER & CHARLES R. SHIPAN, DELIBERATE DISCRETION? THE INSTITUTIONAL FOUNDATIONS OF BUREAUCRATIC AUTONOMY (2002); Jacob E. Gersen & Matthew C. Stephenson, *Over-Accountability*, 6 J. LEGAL ANALYSIS 185 (2014); John D. Huber & Charles R. Shipan, *Politics, Delegation, and Bureaucracy, in* THE OXFORD HANDBOOK OF POLITICAL ECONOMY 256 (Donald A. Wittman & Barry R. Weingast eds., 2008).

15. *See* sources cited *supra* note 10.

cause funds are allocated by different agencies with different structural features, it is possible to ask whether the aforementioned effects vary systematically as a function of different agency features. More generally, our empirical strategy tests whether political factors that are known to affect the receipt of federal funds by congressional districts—for example, whether a district is represented by the President's party—matter more for agencies with structural features that are thought to make them more susceptible to political influence. For example, we can ask and answer the question: are more insulated agencies less responsive to changes in district-level political conditions?

To be clear at the outset, this approach to the problem, while novel, is not methodologically complicated. Indeed, it is quite simple. We simply relate standard measures of agency structure to variables known from the distributive politics literature to affect spending allocations. The standard measures of agency structure are readily available from the literature, though we use them in a different way. Prior studies take agency structure as a dependent variable and seek to explain when and why political principals try to use structure and process to constrain the bureaucracy.[16] In this Essay, rather than treat agency structure as the dependent variable, we treat it as an independent variable and test whether it affects the degree of political responsiveness. To accomplish this, we focus on federal funds distributed by agencies to congressional districts and ask whether those agencies with structural features claimed to facilitate accountability are more responsive to political factors in their funding allocations. We believe this Essay presents the first method capable of testing whether agency structure indeed matters for controlling the conduct of the administrative state.

I. AGENCY DESIGN AND DISTRIBUTIVE POLITICS

This Essay relates to two longstanding literatures, one on agency design and a second on distributive politics. At their core, both these literatures are focused on the responsiveness of political institutions. The agency design literature—situated at the intersection of law and political science—seeks to understand the effect of structural features like insulation and agency organization on accountability and performance.

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16. *See, e.g.*, DAVID EPSTEIN & SHARYN O'HALLORAN, DELEGATING POWERS (1999); DAVID E. LEWIS, PRESIDENTS AND THE POLITICS OF AGENCY DESIGN: POLITICAL INSULATION IN THE UNITED STATES GOVERNMENT BUREAUCRACY, 1946-1997 (2003).

A. Agency Design

Early scholarship on the administrative state tended to emphasize the bureaucracy's technocratic expertise and celebrated agency insulation from politics.[17] Administrators, it was generally thought, would utilize particularized knowledge to implement desirable public policy.[18] In contrast, having witnessed some of the ills of unaccountable technocratic governance, a second generation of scholarship took the lack of agency accountability—that is to say, insulation from politics—to be a problem for governance rather than a solution. These concerns culminated in the 1970s with a boom of scholarship emphasizing the pathologies of unaccountable bureaucratic entities.[19] A particularly pessimistic account of these agency problems arose in the late 1970s under the "delegation as abdication" thesis, which dominated academic debates about the bureaucracy. Critics of the administrative state argued that an unaccountable and headless fourth branch of government—the bureaucrats—had come to run American politics.[20] The unelected and uncontrollable bureaucracy—not the President or Congress—was said to drive important public policy.[21]

Aiming to cure this perceived lack of democratic accountability, scholarship over the following decades emphasized the various ways in which Congress and, more recently, the President can (and allegedly do) exercise ex ante or ex post control over agency behavior. This wave of scholarship foregrounds the principal-agent model of the bureaucracy and potential mechanisms for managing agency problems.[22] Two questions are especially pertinent: First, what is the desired balance between accountability and insulation? Second, how do we achieve this balance?

When it comes to the desired end, the ideas of political control, political responsiveness, accountability, and political insulation are all overlapping and

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17.   *See, e.g.*, JAMES M. LANDIS, THE ADMINISTRATIVE PROCESS (1938).

18.   *See id.* at 23-24.

19.   *See, e.g.*, THEODORE J. LOWI, THE END OF LIBERALISM: THE SECOND REPUBLIC OF THE UNITED STATES (2d ed. 1979).

20.   *See id.* at 272-94.

21.   DAVID SCHOENBROD, POWER WITHOUT RESPONSIBILITY: HOW CONGRESS ABUSES THE PEOPLE THROUGH DELEGATION 14 (1993).

22.   An ongoing strain in the study of the bureaucracy emphasizes the active role that bureaucratic actors take on in establishing policy authority. *See, e.g.*, DANIEL P. CARPENTER, THE FORGING OF BUREAUCRATIC AUTONOMY: REPUTATIONS, NETWORKS, AND POLICY INNOVATION IN EXECUTIVE AGENCIES, 1862-1928 (2001); POLITICS, POLICY, AND ORGANIZATIONS: FRONTIERS IN THE SCIENTIFIC STUDY OF BUREAUCRACY (George A. Krause & Kenneth J. Meier eds., 2003).

under-specified. Having an accountable and responsive government is good, but it has long been recognized that some degree of agency insulation from popular sentiment, congressional will, or presidential directive is often good as well.[23] Moreover, to ask "is the agency responsive?" raises another question: "*to whom* is the agency responsive?" Often the implicit answer is that the agency is responsive either to the President or to Congress, the working assumption being that elected officials are themselves accountable or responsive to the voting public. To say that an institution is accountable, moreover, is not to say that it performs well. In a wide range of policy settings, making actors more accountable can actually produce worse decisions.[24] Thus, while a lack of responsiveness signals a lack of accountability, and a lack of accountability is generally taken to be normatively undesirable in a constitutional democracy, these tradeoffs are actually far more complex than is generally thought. That said, if agencies were simply not at all responsive to the preferences of Congress, the President, or the citizenry, it would bode ill for the legitimacy of much public law.

To facilitate varying degrees of desired political responsiveness, scholars and politicians began to focus on the ways that administrative agencies can be designed. After the wane of the delegation-as-abdication scholarly trend, subsequent scholars emphasized the *structure-and-process* thesis articulated by Professors Matthew McCubbins, Roger Noll, and Barry Weingast[25] and refined by others.[26] Although the structure-and-process school now has many variants,

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23. Gersen & Stephenson, *supra* note 14; *see also* Paul R. Verkuil, *The Purposes and Limits of Independent Agencies*, 1988 DUKE L.J. 257, 271-72, 276 (arguing that the adjudicatory function of an agency justifies greater independence from the President and Congress).

24. Gersen & Stephenson, *supra* note 14, at 4-5.

25. *See* Matthew D. McCubbins, Roger G. Noll & Barry R. Weingast, *Administrative Procedures as Instruments of Political Control*, 3 J.L. ECON. & ORG. 243 (1987) [hereinafter McCubbins et al., *Administrative Procedures*]; Mathew D. McCubbins, Roger G. Noll & Barry R. Weingast, *Structure and Process, Politics and Policy: Administrative Arrangements and the Political Control of Agencies*, 75 VA. L. REV. 431 (1989) [hereinafter McCubbins et al., *Structure and Process*].

26. *See, e.g.*, EPSTEIN & O'HALLORAN, *supra* note 16 (adopting a transaction-costs approach to analyze agency-design choices); JOHN FEREJOHN, PORK BARREL POLITICS: RIVERS AND HARBORS LEGISLATION, 1947–1968 (1974) (examining the effect of Congress's structure on the kinds of civil public works policies it produces); Steven J. Balla, *Administrative Procedures and Political Control of the Bureaucracy*, 92 AM. POL. SCI. REV. 663 (1998) (finding that administrative procedures do not enhance political control in the context of the Health Care Financing Administration); Kathleen Bawn, *Political Control Versus Expertise: Congressional Choices About Administrative Procedures,* 89 AM. POL. SCI. REV. 62 (1995) (modeling congressional choices about agency procedures as a trade-off between political control and technical competence); David Epstein & Sharyn O'Halloran, *Administrative Procedures, Information, and Agency Discretion*, 38 AM. J. POL. SCI. 697 (1994) (considering the design of administrative

the simplest version asserts that legislatures—political principals—can, in fact, control the exercise of delegated authority, in part, by carefully delineating agency structure and the process by which agency policy is formulated. Given the challenges of ex post monitoring by Congress,[27] the structure-and-process literature tends to emphasize ex ante restrictions that mitigate the informational advantage enjoyed by agencies and stack the deck in favor of certain interests to ensure the durability of the original bargain. The more prominent of these mechanisms are elaborate procedural requirements like those specified in the Administrative Procedure Act (APA), which, for example, allow parties affected by potential regulations to comment on potential agency policy and provide an opportunity to challenge agency decisions in judicial proceedings.[28]

The President of course, no less than Congress, has every reason to try to control the bureaucracy. Yet, the President faces a range of similar problems resulting from the possibility of preference divergence and information asymmetry.[29] The President's ability to influence the bureaucracy also depends on a range of institutional features, including whether the agency's leadership is insulated from presidential removal, the location of the agency inside or outside the cabinet hierarchy, and the extent of presidential appointments in the agency, subject (or not) to Senate approval.[30]

But what exactly is agency structure? Conceptually, the term could connote a range of different design dimensions, but in practice it tends to mean a relatively small set of agency features. For example, perhaps the most prominent modern scholar of agency design focuses mainly on the agency's location (inside or outside the executive branch hierarchy), independence (whether there are additional bureaucratic layers above the agency), commission structure, fixed terms for leadership, and the imposition of qualification requirements for agency leadership.[31] More recently, and in our view, potentially more im-

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procedures in the face of uncertain policy consequences); Jonathan R. Macey, *Organizational Design and Political Control of Administrative Agencies*, 8 J.L. ECON. & ORG. 93 (1992) (arguing that it is possible to create administrative procedures such that they are not undermined by future developments).

27. *See, e.g.*, Mathew D. McCubbins & Thomas Schwartz, *Congressional Oversight Overlooked: Police Patrols Versus Fire Alarms*, 28 AM. J. POL. SCI. 165 (1984).

28. *See supra* note 23 and accompanying text.

29. *See* Terry Moe, *The Positive Theory of Public Bureaucracy*, *in* PERSPECTIVES ON PUBLIC CHOICE: A HANDBOOK 455 (Dennis C. Mueller ed., 1997).

30. *See* EPSTEIN & O'HALLORAN, *supra* note 16, at 79-80; LEWIS, *supra* note 16, at 44-45; B. Dan Wood & Richard W. Waterman, *The Dynamics of Political-Bureaucratic Adaptation*, 37 AM. J. POL. SCI. 497, 500-01 (1993).

31. LEWIS, *supra* note 16, at 44-49.

portantly, Professor David Lewis has emphasized the importance of the degree of penetration of political appointees into an agency's upper levels of leadership and management.[32] Having more politically appointed managers relative to civil service employees is said to enhance presidential control over agency behavior.[33]

This focus on *agency packing*—putting more political appointees in the upper echelons of agency management—is structural, but it also links agency design structure to the individuals that exercise legal discretion. Unlike generic controls like reliance on notice-and-comment decision procedures, agency packing is a more direct mechanism to influence agency decision making. This is true in two senses. First, principals can affect subsequent behavior by *selecting* the right *type* of actors for high-level positions. Second, packing creates incentive effects by providing a ready-made lever to pull when the President or Congress wants to influence an agency.

The timing of agency-design decisions is also relevant. Most decisions about agency design are made at the time of an agency's creation.[34] An agency's organic statute specifies the authority delegated to an agency, whether the agency will be led by a board or an individual, what sorts of qualifications will be imposed on agency leadership, and what procedures may or must be used to make policy.[35] Some of these design choices are also either constrained by or interact with constitutional restrictions. For example, Congress may insulate agency heads from at-will removal by the President,[36] but officers whom those agency heads oversee may not be similarly insulated.[37]

Some characteristics of agency design are susceptible to change by presidential action. President Carter's bureaucratic reorganization in the late 1970s, for example, reorganized the Federal Emergency Management Agency (FEMA).[38] Current policy also allows a certain number of agency employees to be reclassified or converted from political appointments to permanent positions.[39]

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32. LEWIS, *supra* note 9, at 1-2.

33. *See id.* at 56-57.

34. *See* LEWIS, *supra* note 16, at 44-49.

35. *See id.*

36. *See* Morrison v. Olson, 487 U.S. 654, 671-77 (1988); Humphrey's Ex'r v. United States, 295 U.S. 602, 629 (1935).

37. Free Enter. Fund v. Pub. Co. Accountability Oversight Bd., 561 U.S. 477, 496 (2010).

38. Reorganization Plan No. 3 of 1978, 3 C.F.R. 329 (1978), *reprinted in* 92 Stat. 3788 (1978).

39. *See* U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-10-688, PERSONNEL PRACTICES: CONVERSIONS OF EMPLOYEES FROM POLITICAL TO CAREER POSITIONS MAY 2005 - MAY 2009, at 1 (2010).

By and large, however, decisions about agency structure are made by Congress and the President at the time of an agency's creation.[40]

While the structure-and-process tradition has always been accompanied by qualitative evidence of political influence over specific agency or regulatory programs, recent years have seen a more sustained effort to test the theories systematically.[41] Unfortunately, virtually all of these efforts suffer from the challenges noted above: either agency features do not vary or there is no policy output that can be compared across agencies. Although the output we use—spending—is an imperfect one, it nevertheless allows us to make headway in estimating how the mechanisms of political influence affect actual agency outcomes.

B. Distributive Politics

The early distributive politics literature focused expressly on administrative agencies,[42] but this emphasis was lost for many years as the literature became increasingly Congress-centric.[43] Much of the work on Congress demonstrates that the power to propose the initial allocation of funds increases the share the legislator is able to obtain.[44] Theoretically, because both committees and parties are key gatekeepers for authorization and appropriation decisions, members serving on key committees—particularly in leadership positions—are generally thought to be better positioned to ensure that their home districts receive

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40. LEWIS, *supra* note 16, at 22-24..

41. *See* Balla, *supra* note 26; Marc Allen Eisner & Kenneth J. Meier, *Presidential Control Versus Bureaucratic Power: Explaining the Reagan Revolution in Antitrust*, 34 AM. J. POL. SCI. 269 (1990); Wood & Waterman, *supra* note 30.

42. *See, e.g.*, ARNOLD, *supra* note 10, at 18 (noting that its "theory is concerned exclusively with how *bureaucrats* make decisions concerning the allocation of expenditures; it does not attempt to explain how congressional committees make such decisions").

43. For one of the pioneering works focusing on the impact of Congress's inner workings on distributive outcomes, see David P. Baron & John A. Ferejohn, *Bargaining in Legislatures*, 83 AM. POL. SCI. REV. 1181 (1989). *See also* Emerson M.S. Niou & Peter C. Ordeshook, *Universalism in Congress*, 29 AM. J. POL. SCI. 246 (1985) (explaining the norm of unanimous congressional coalitions with respect to a variety of redistributive matters); Kenneth A. Shepsle & Barry R. Weingast, *Political Preferences for the Pork Barrel: A Generalization*, 25 AM. J. POL. SCI. 96 (1981) (exploring possible explanations for the existence of oversized congressional coalitions in distributive policies).

44. Huseyin Yildirim, *Proposal Power and Majority Rule in Multilateral Bargaining with Costly Recognition*, 136 J. ECON. THEORY 167, 168 n.1 (2007).

funds.[45] Empirical evidence, however, is mixed. Districts represented on the House Armed Services Committee or the House Small Business Committee receive more funds,[46] but those on the House Appropriations Committee and House Public Works Committee do not.[47] Members on the House Committee on Agriculture seem to receive more agricultural money,[48] and membership on the House Committee on Transportation and Infrastructure yields comparable benefits,[49] but representation on the Education and Labor Committee does not.[50] On net, empirical studies have failed to reveal consistently the results predicted by the theoretical literature. Moreover, even in studies that find a correlation between committee membership and spending, it is difficult to distinguish the causal effect of committee membership from that of member self-selection onto committees.

The inherited wisdom about the role of partisan control and congressional spending is similar.[51] Because the majority party controls the legislative agenda,[52] majority party membership should be positively correlated with the volume of federal funds brought home. Moreover, majority party members are thought to obtain more federal funds for their local districts, which might help them win reelection.[53] But, again, empirical evidence is mixed. While some studies find a positive correlation between federal spending and the partisan

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45. *See* E. Scott Adler & John S. Lapinski, *Demand-Side Theory and Congressional Committee Composition: A Constituency Characteristics Approach*, 41 AM. J. POL. SCI. 895, 899 (1997); Shepsle & Weingast, *supra* note 43, at 101; Barry R. Weingast & William J. Marshall, *The Industrial Organization of Congress; Or, Why Legislatures, Like Firms, Are Not Organized as Markets*, 96 J. POL. ECON. 132, 148 (1988).

46. *See* R. Michael Alvarez & Jason L. Saving, *Congressional Committees and the Political Economy of Federal Outlays*, 92 PUB. CHOICE 55, 64 tbl.1 (1997).

47. *See id.*

48. Charles O. Jones, *Representation in Congress: The Case of the House Agriculture Committee*, 55 AM. POL. SCI. REV. 358 (1961).

49. Brian Knight, *Estimating the Value of Proposal Power*, 95 AM. ECON. REV. 1639, 1650 tbl.5 (2005).

50. Valerie Heitshusen, *The Allocation of Federal Money to House Committee Members: Distributive Theory and Policy Jurisdictions*, 29 AM. POL. RES. 79, 86 (2001).

51. *See, e.g.*, SARAH A. BINDER, MINORITY RIGHTS, MAJORITY RULE: PARTISANSHIP AND THE DEVELOPMENT OF CONGRESS (1997).

52. GARY W. COX & MATHEW D. MCCUBBINS, LEGISLATIVE LEVIATHAN: PARTY GOVERNMENT IN THE HOUSE (2d ed. 2007); GARY W. COX & MATHEW D. MCCUBBINS, SETTING THE AGENDA: RESPONSIBLE PARTY GOVERNMENT IN THE U.S. HOUSE OF REPRESENTATIVES (2005).

53. Steven D. Levitt & James M. Snyder, Jr., *The Impact of Federal Spending on House Election Outcomes*, 105 J. POL. ECON. 30, 31 (1997).

affiliation of a district or the majority coalition in Congress,[54] other work finds little supporting evidence.[55]

More recent work has emphasized the President's influence over appropriations.[56] If proposal power matters in bargaining, the President's power to introduce the initial budget could tilt the distribution of federal moneys in favor of his interests. Indeed, the data show that districts represented by a member of the President's party do receive more federal funds.[57] In addition to the ex ante proposal influence of the President, the executive branch also has ways to influence the distribution of funds ex post. Because most earmarks are actually contained in legislative history and are therefore not legally binding on agencies,[58] the role of the executive branch in facilitating compliance or noncompliance with earmarks is critical.

Once the locus of analysis shifts from Congress to the executive branch, both theoretical models and empirical analyses must explicitly acknowledge the role of agencies in the spending process. There is no good reason to assume that bureaucratic organizations will be perfect agents with respect to distributing program funds while notoriously imperfect agents in all other policy domains. Indeed, an unwieldy body of law governs the spending of budgeted funds.[59] In some contexts, the President or agencies may shift funds across programs within a budget account, transfer funds from one budget account to another entirely, or decline to spend appropriated funds at all.[60] Impoundment, rescission, and transfer of funds across budget accounts are controversial practices, but also fairly common historically.[61]

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54. *See* Steven J. Balla et al., *Partisanship, Blame Avoidance, and the Distribution of Legislative Pork*, 46 AM. J. POL. SCI. 515, 518 (2002); Steven D. Levitt & James M. Snyder, Jr., *Political Parties and the Distribution of Federal Outlays*, 39 AM. J. POL. SCI. 958, 959 (1995).

55. DIANA EVANS, GREASING THE WHEELS: USING PORK BARREL PROJECTS TO BUILD MAJORITY COALITIONS IN CONGRESS (2004); Kenneth N. Bickers & Robert M. Stein, *The Congressional Pork Barrel in a Republican Era*, 62 J. POL. 1070, 1084 (2000); Benjamin E. Lauderdale, *Pass the Pork: Measuring Legislator Shares in Congress*, 16 POL. ANALYSIS 235, 247 (2008).

56. Berry et al., *supra* note 10, at 10.

57. Christopher R. Berry, Barry C. Burden & William G. Howell, *The President and the Distribution of Federal Spending*, 104 AM. POL. SCI. REV. 783, 791 tbl.1 (2010).

58. *See supra* notes 12-13 and accompanying text.

59. *See generally* LOUIS FISHER, PRESIDENTIAL SPENDING POWER (1975) (outlining the laws governing budget execution after the budget preparation and appropriations phases).

60. 2 GOV'T ACCOUNTABILITY OFFICE, *supra* note 11, at 24-32.

61. *See* OFFICE OF MGMT. & BUDGET, EXEC. OFFICE OF THE PRESIDENT, CIRCULAR NO. A-11, PREPARATION, SUBMISSION, AND EXECUTION OF THE BUDGET, pt. 4 (2015); FISHER, *supra* note 59, at 3.

C. Administrative Agencies and the Distribution of Federal Funds

The modern focus on Congress's role in distributive politics represents a sharp divergence from early scholarship.[62] This emphasis began with Professor Douglas Arnold's seminal work, which sought to understand the congressional-bureaucratic relationship with regard to geographic allocation of funds.[63] Professor Arnold argued that rational bureaucrats would form an implicit bargain with the legislature: bureaucrats would distribute funds in the manner desired by legislators in order to maintain budgetary stability.[64] On this view, agencies allocate funds to congressional districts in order to curry favor; therefore, one might expect agencies to target the districts of representatives who are relatively neutral or mildly opposed to any given program.[65]

More recently, Professors Robert Stein and Kenneth Bickers have argued that agencies "have both the opportunity and motivation to be responsive to requests for help from legislators and their constituents."[66] In their model, agencies help constituencies organize themselves politically by working with interest groups, which then support the agency's programs in Congress. Here too, agencies' desire for stable or increasing budgets incentivizes their cooperation with legislators, constituents, and interest groups. Professors Anthony Bertelli and Christian Grose offer a somewhat different account, arguing that agencies distribute funds in accordance with bureaucratic ideology and presidential electoral objectives.[67] They show that the Departments of Defense and Labor's grants to states vary as a function of the ideological difference between the relevant cabinet secretaries and senators. Unlike Professor Arnold, who emphasizes agency preference for distributing funds to neutral congressional districts,[68] Professors Bertelli and Grose argue that agencies will distribute greater funds to ideological allies. Agencies are able to do this, in part, because "[t]hese [agency] costs attenuate the possibility of political control over the bureau's distributive policy choices, increasing *de facto* the autonomy of the bureau

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62. *See supra* notes 42-44 and accompanying text.

63. *See* ARNOLD, *supra* note 10.

64. *See id.* at 22.

65. *See id.* at 58.

66. ROBERT M. STEIN & KENNETH N. BICKERS, PERPETUATING THE PORK BARREL: POLICY SUBSYSTEMS AND AMERICAN DEMOCRACY 7 (1995).

67. Bertelli & Grose, *supra* note 10, at 926.

68. *See* ARNOLD, *supra* note 10, at 58.

to influence policy outcomes by leveraging the ideological distribution in the Senate to enhance support for its programs."[69]

Our project, by contrast, focuses on how agency structure facilitates political principals' control of agency decision making. We focus neither on whether representation by a member of the majority party in Congress increases the funds a district receives, nor on whether agencies distribute funds to politically valuable allies. Rather, we seek to determine whether the magnitude of the effects of these political factors on spending decisions varies as a function of agency structure.

II. AGENCIES, MONEY, AND POLITICS

A. Background and Data

This Essay bases its analysis on federal spending data, which comes from the Federal Assistance Award Data System (FAADS), a government-wide compendium of federal programs.[70] FAADS documents the transfer of almost anything of value from the federal government to a domestic beneficiary and covers virtually all federal programs other than defense.[71] In total, the database tracks approximately $25 trillion (in 2004 dollars) in federal expenditures from 1984 to 2007. Professors Stein and Bickers assembled FAADS files from fiscal year 1983 to 1990[72] and Professors Berry, Burden, and Howell extended the data through 2007.[73] The complete database tracks the total dollar amount awarded by each non-defense federal program to recipients in each of 435 congressional districts during each of the fiscal years. To reflect the fact that money spent this year is based on the budget passed during the prior year, outlays in year t are assigned to the legislator who represented the district in year $t - 1$.[74] We exclude agencies when they do not spend a total of at least $10 million and allocate money to at least ten districts in a given year.

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69. Bertelli & Grose, *supra* note 10, at 931.

70. *Records About Grants, Insurance, Loans, Subsidies and Other Economic Assistance Awarded by Federal Agencies, 10/1/1981 – 9/30/2010*, NAT'L ARCHIVES CATALOG, http://catalog.archives .gov/id/604955 [http://perma.cc/67E2-M8VJ].

71. *Id.*

72. *See* STEIN & BICKERS, *supra* note 66, at 36. *See generally* KENNETH N. BICKERS & ROBERT M. STEIN, FEDERAL DOMESTIC OUTLAYS, 1983–1990: A DATA BOOK (1991).

73. Berry et al., *supra* note 10, at 5.

74. In the year following redistricting, such matches are not possible; hence we drop these cases.

Unlike prior studies using FAADS,[75] we disaggregate the data by federal agency. The revised dataset tracks the annual receipts of each congressional district from each originating agency, resulting in nearly two-hundred thousand agency-by-district-by-year observations. Although the term *agency* has several meanings in political science and is a term of art in administrative law,[76] we focus on the highest possible level of aggregation in the data and, therefore, analyze spending flows from the Department of Interior rather than from subunits like the Bureau of Land Management. In future work, we plan to focus on spending patterns by these smaller units within larger agencies.

B. Empirical Strategy

To use the flow of federal dollars from agencies to districts to evaluate the impact of agency structure on political responsiveness, an initial empirical challenge is to distinguish *politically responsive* agency spending from *mission-driven* agency spending. To illustrate the distinction, observe that the Department of Housing and Urban Development (HUD) tends to distribute most of its outlays to urban areas. Urban areas have more Democratic voters and are more likely to elect Democratic members to represent them in Congress. Therefore, we may empirically observe districts represented by Democrats receiving most of the grant awards from HUD. However, it would be unwarranted to conclude based on these facts that HUD's grant allocations are being driven by *political responsiveness* to Democrats. Rather, the natural *mission-driven* constituency of the agency overlaps with the traditional political constituency of one of the two major parties, leading to an observed correlation between agency spending and district partisanship.

Figure 1 shows that the correlations between agency outlays and district partisanship across different agencies are a fairly general phenomenon. Figure 1

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75. *See, e.g.*, Berry et al., *supra* note 10; Levitt & Snyder, *supra* note 54.

76. In the context of the Administrative Procedure Act (APA), which applies only to "agencies," *see* 5 U.S.C. § 551(1) (2012), the term "agency" has been interpreted broadly by courts to apply to most entities of the federal government that exercise significant government authority. In the context of political science, an "agency" tends to denote organizational units of the executive branch. "Agency" may denote large cabinet-level bureaucratic entities within the executive branch hierarchy (e.g., the Department of the Interior), smaller organizational entities within cabinet-level entities (e.g., the Bureau of Land Management within the Department of the Interior), stand-alone bureaucratic entities (e.g., the EPA), or so-called independent agencies (e.g., the Federal Communications Commission). *See* Franklin v. Massachusetts, 505 U.S. 788, 801 (1992) (holding that the President is not an agency under the APA); Reg'l Mgmt. Corp. v. Legal Servs. Corp., 186 F.3d 457, 462 (4th Cir. 1999) (holding that the Legal Services Corporation is not an agency).

presents a variable we call Democratic "tilt," which is defined as the share of an agency's annual outlays going to Democratic-controlled districts divided by the share of seats in the House controlled by Democrats. Numbers greater than one indicate that Democratic districts receive more money from an agency than would be expected based on their seat share in the House. For instance, if an agency gave sixty percent of its funding to Democratic districts when Democrats controlled only fifty percent of House seats, the observed tilt would be 1.2.

Figure 1 demonstrates that all but four agencies in our data exhibit positive Democratic tilt. FEMA and the National Aeronautics and Space Administration (NASA) are among the agencies with the most extreme Democratic tilt, while the Department of the Interior is one of the few agencies that tilts in favor of Republicans. Nevertheless, because agencies have mission-driven objectives, which may happen to coincide with the presence of partisan voters in a district, it is not possible to conclude from the sort of evidence shown in Figure 1 that particular agency spending allocations are based on political considerations. These summary data cannot establish whether the patterns result from underlying agency preferences, statutory constraints, mission-driven priorities, or effective political control. Identifying a link between agency structure and political responsiveness requires disentangling mission-related partisan correlations from allocations that are related to political forces.

FIGURE 1.

DEMOCRATIC TILT BY AGENCY
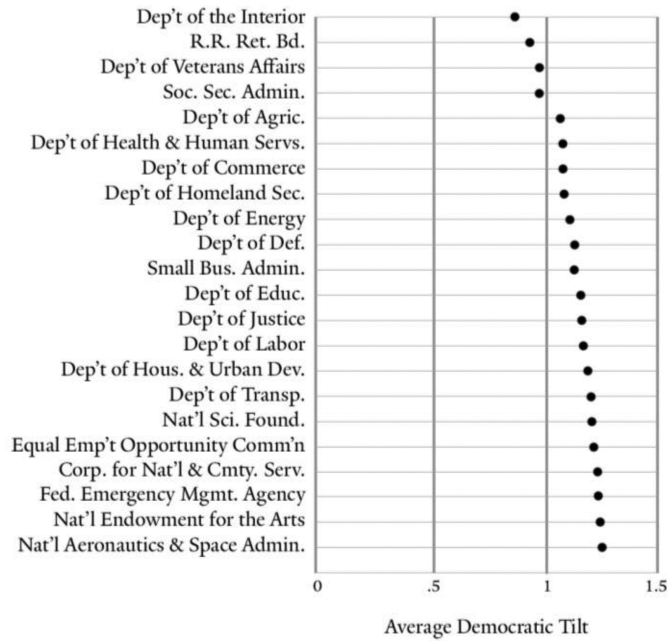
Note. Tilt is defined as the percentage of the agency's dollar awards going to Democrat-represented districts divided by the percentage of House seats held by Democrats.

Our empirical strategy consists of two steps. In the first step, we estimate the outlays received by each congressional district from each agency in each year as a function of the political attributes of the district's representative, for example whether the district's representative is a member of the majority party in the Congress, holds a committee chair, and so on. To sharpen our focus on politically responsive spending, we partial out spending allocations based on natural mission-driven connections between the agency and the district by including *district-by-agency fixed effects*. This method accounts for any inherent factors that make a particular district more or less likely to receive funding from a particular agency. We are then able to estimate whether a district receives more (or less) federal funding than we would expect it to receive, given mission-driven factors, in years when its congressional representative has more (or less) political clout. Identification in the models comes from changes in spending allocations and political variables, *within* a district-agency pair, *over time*.

This is to our knowledge the first analysis to use district-by-agency fixed effects. We believe this approach provides significant advantages over prior efforts, such as Professors Stein and Bickers' study,[77] which relies on directly specifying all district-level covariates that measure "demand" for federal spending. For example, the percentage of the population employed in farming might serve as a proxy for district demand for agricultural spending. However, their approach has two significant limitations. First, it requires a full specification of *all* variables that might correlate with both district political influence and district-level demand for federal outlays. The correct specification is not known a priori from theory; deriving it empirically would require detailed knowledge of eligibility requirements and other funding determinants across literally hundreds of different federal programs. Second, even if the full set of relevant district covariates were known, relatively few district-level data sources exist—other than from the decennial census[78]—making it exceedingly unlikely that this approach would collect all the data thought to correlate with both political influence and federal spending. By contrast, our district-by-agency fixed effects design controls for *all* time-invariant attributes of a district and agency, whether observable or unobservable to the analyst.

More formally, in the first step, consider the following baseline model:

$$\text{outlays}_{ijt} = \alpha_{ij} + \delta_t + \mathbf{X}_{it} + \epsilon_{ijt} \qquad (1)$$

where subscript i denotes (redistricting-specific) congressional districts, j denotes the originating federal agency, and t denotes the year. By including agency-specific congressional district fixed effects, α_{ij}, which are a set of dummy variables for each agency-district pair, this method accounts for all time-invariant characteristics—observable and unobservable—of both districts and agencies, as well as the interactions between districts and agencies. To control for nationwide changes in federal domestic spending over time, we include dummies, δ_t, for all but one year per redistricting period. These year-specific dummy variables account for any annual fluctuations in federal spending that affect all agencies. The vector $\mathbf{X}_{it}$ contains variables measuring the political attributes of the districts' congressional representatives, explained below. The vector   contains regression coefficients, and ϵ_{it} is an error term, which we cluster by district.

Within this framework, the coefficients represent our measures of politically responsive spending. For example, when $\mathbf{X}_{it}$ contains a dummy variable equal to one for members of the Democratic Party, and zero otherwise, a posi-

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77.   *See* STEIN & BICKERS, *supra* note 66, at 35-36.

78.   *See* Adler & Lapinski, *supra* note 45, at 905 (relying on Census data).

tive coefficient indicates that a district receives more federal funding during those years in which it sends a Democrat to Washington. With the district-by-agency fixed effects, the non-political attributes of a district that make it otherwise prone to receive federal funds do not change simultaneously with the change in the political characteristics of its representative.[79] To illustrate, return to the previous HUD example. If HUD gives more money to Democrats, on average, we do not consider this to be politically responsive spending. If, however, HUD gives significantly more money to the *same* district after it replaces a Republican representative with a Democrat, we consider this to be a politically responsive change in agency spending.

The coefficients are of potential interest in and of themselves. They are not, however, the main quantity of interest for this Essay. Rather, our goal is to utilize the spending outcomes to test whether agency design affects political responsiveness. Our data allow us to test whether specific organizational features of agencies—long thought to be mechanisms for political principals to control administrative decision making—are actually associated with more politically responsive spending.

In the second step, we investigate these relationships by extending equation (1) to include *interactions* between district political characteristics and agency design characteristics, as follows:

$$\text{outlays}_{ijt} = \alpha_{ij} + \delta_t + \ \mathbf{X}_{it} + \mathbf{\Phi}(\mathbf{X}_{it} \cdot \mathbf{Z}_j) + \epsilon_{ijt} \qquad (2)$$

where $\mathbf{Z}_j$ is a vector of agency attributes, to be explained below, and the remaining terms are as defined above.[80] The variables of primary interest—the interactions between agency and district characteristics—are identified by changes within districts over time in the political attributes of their representative. For example, if $\mathbf{X}_{it}$ contains a dummy variable equal to one for members of the majority party in the House, a positive coefficient is indicative of politically responsive spending in favor of the districts with members in the majority, on average across agencies. A significant positive coefficient on the interaction of majority party status and an agency characteristic in $\mathbf{Z}_j$ indicates that agencies with that structural attribute are *more* politically responsive to the majority party than agencies without that structural feature. In essence, we simply identify

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79. This assumption strikes us as particularly reasonable given that we are using redistricting-specific fixed effects, so the amount of time over which a district's attributes may change is at most a decade.

80. We do not include a time subscript for $\mathbf{Z}$ because we use time-invariant agency attributes in most of our analyses, as explained below. However, in the robustness Section we also report results using time-varying agency attributes.

the main political spending effects and then ask whether these effects are different among agencies with structural features hypothesized to facilitate political control.

In principle, any agency characteristic that is thought to influence political responsiveness is a candidate for inclusion in $\mathbf{Z}_j$. Although we will discuss models using other structural features, we organize our analysis around one key organizational variable: the proportion of political appointees in the upper echelons of the agency. We refer to this structural feature as *packing* or *stacking*. We believe this focus is justified for three reasons. First, many of the fiercest recent debates in law and politics concern control over the appointment and removal of agency personnel.[81] Theorists suggest that, as the top level of an agency is increasingly filled with political appointees rather than civil service staff, an agency's decision making tends to be more susceptible to political influence and, therefore, more responsive to the demands of political principals such as members of Congress or the executive branch.[82] Second, recent innovative work has already emphasized the importance of this structural feature for overall agency performance.[83] Third, relying on this measure directly captures what is almost always assumed to be the key feature of agency design: the degree of agency insulation from politics (equivalently, susceptibility to political influence).

To measure agency packing, we compute the proportion of the agency's top leadership positions that are politically appointed as compared to those categorized as career Senior Executive Service (SES) positions. The SES represents the most senior policymaking positions for career civil servants. The ratio of political appointees to SES personnel is an indicator of the extent to which the key policymakers in an agency are directly chosen by their political principals. A close variant of this measure of agency packing features prominently in the

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81. *See* STEVEN CALABRESI & CHRIS YOO, THE UNITARY EXECUTIVE: PRESIDENTIAL POWER FROM WASHINGTON TO BUSH 4, 35 (2008); LEWIS, *supra* note 9, at 5-8; LEWIS, *supra* note 16, at 47-49, 90; Lawrence Lessig & Cass R. Sunstein, *The President and the Administration*, 94 COLUM. L. REV. 1, 31-32 (1994).

82. *See, e.g.*, Robert F. Durant & Adam L. Warber, *Networking in the Shadow of Hierarchy: Public Policy, the Administrative Presidency, and the Neoadministrative State*, 31 PRESIDENTIAL STUD. Q. 221, 222 (2001) ("Presidents indirectly can influence policy by naming political appointees to agencies . . . . These appointees, in turn, can change agency rules, budgets, structures, and personnel requirements to suit presidential policy goals.").

83. LEWIS, *supra* note 9, at 122, 172-97; *see* John B. Gilmour & David E. Lewis, *Political Appointees and the Competence of Federal Program Management*, 34 AM. POL. RES. 22, 23-24 (2006).

work of Professor Lewis and is a straightforward initial way to summarize the degree of agency insulation.[84]

The data on packing and other structural features of administrative agencies come from Lewis.[85] We matched Lewis's structural data with the FAADS spending data based on the originating agency for each federal spending program. Figure 2 shows the distribution of packing among the agencies in our data. Science-oriented agencies, such as NASA and the National Science Foundation (NSF), have relatively low levels of packing, as do agencies that administer major entitlement programs, such as the Social Security Administration (SSA) and the Department of Veterans Affairs. The most politicized agencies include the Department of Education, the National Foundation on the Arts and Humanities, HUD, the Appalachian Regional Commission (ARC), and the Corporation for National and Community Service, where political appointees outnumber career SES staff in each case.

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84. LEWIS, *supra* note 9, at 22-23, 26, 136-37; LEWIS, *supra* note 16, at 47.

85. Data and codebooks are available at David Lewis's website. David Lewis, *Data*, VAND. U., http://my.vanderbilt.edu/davidlewis/data [http://perma.cc/V8VK-2ZKH].

FIGURE 2.
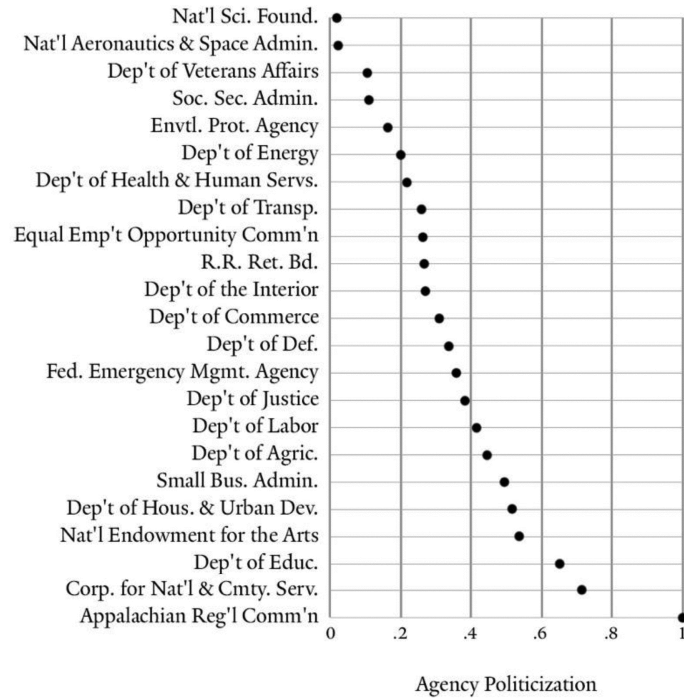
AGENCY PACKING

Note. *Packing* is defined as the average number of political appointees divided by the sum of the average number of political appointees plus the average number of SES personnel in the agency, 1984-2008.

The number of political appointees within an agency may change over time.[86] Some of these shifts in the number of appointees are the result of legal re-categorization of existing agency jobs; others are the result of new jobs.[87] For most of our analyses, we report results using the value of packing from the

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86. LEWIS, *supra* note 9, at 27-30.

87. *See* Letter from J. Christopher Mihim, Managing Dir., Strategic Issues, Gov't Accountability Office, to Thomas R. Carper, Chairman, Comm. Homeland Sec. & Governmental Affairs 1 (Mar. 1, 2013), http://www.gao.gov/assets/660/652573.pdf [http://perma.cc/VL9E -DA6E]; Paul A. Schneider, *Transition: Heads We Win, Tails You Lose*, LEADERSHIP J. ARCHIVE (Jan. 19, 2008), http://www.dhs.gov/journal/leadership/2008/01/transition -heads-we-win-tails-you-lose.html [http://perma.cc/L6MJ-J28J].

first year of our study, 1984.[88] Our reasoning is twofold. First, as shown in Table 1, changes over time in agency packing are relatively minor and inconsistent. Hence we are reluctant to place much weight on them. Second, to the extent that agency packing may be endogenous—a point we address explicitly below[89]—using the initial value across the subsequent twenty-five years mitigates the possibility that our results are being driven by changes in packing that are caused by an agency's recent past behavior. Nevertheless, we also report results using time-varying agency packing in Appendix I.[90]

TABLE 1.

AGENCY PACKING OVER TIME

Agency	1984	1988	1992	1996	2000	2004	2008
Corp. for Nat'l & Cmty. Serv.				77.3%	50.0%	75.0%	100.0%
Dep't of Agric.	46.9%	47.1%	43.5%	45.1%	46.5%	40.7%	39.7%
Dep't of Commerce	31.6%	32.1%	31.5%	33.7%	24.9%	32.8%	30.1%
Dep't of Def.	39.8%	33.9%	32.1%	34.0%	31.4%	34.1%	35.5%
Dep't of Educ.	64.4%	70.6%	65.0%	65.0%	65.5%	62.0%	61.5%
Dep't of Energy	17.7%	19.0%	19.7%	21.8%	22.2%	20.3%	19.5%
Dep't of Health & Human Servs.	24.3%	21.7%	20.6%	20.1%	19.9%	25.6%	24.0%
Dep't of Hous. & Urban Dev.	59.6%	54.4%	48.9%	50.2%	52.7%	48.4%	43.4%
Dep't of Justice	54.7%	50.4%	38.0%	37.2%	31.9%	36.7%	31.7%
Dep't of Labor	39.2%	39.4%	41.5%	42.4%	36.0%	45.9%	48.4%
Dep't of Transp.	29.9%	27.2%	18.4%	26.0%	31.2%	28.8%	30.3%
Dep't of Veterans Affairs	11.6%	10.6%	8.8%	9.3%	11.8%	13.4%	11.6%
Dep't of the Interior	30.1%	29.1%	28.7%	27.4%	25.6%	24.1%	24.1%

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88. For agencies created after 1984, we use the value of packing for the first year of the agency's appearance in our data. *See infra* Table 1.

89. *See infra* Section II.D.

90. Note that the main effect of agency packing cannot be identified in the models that use time-invariant measures, because they are subsumed in the district-by-agency fixed effects. This is not a problem, as we are not interested in the main effect.

Agency	1984	1988	1992	1996	2000	2004	2008
Envtl. Prot. Agency	20.6%	14.9%	17.8%	16.4%	12.9%	18.3%	19.1%
Equal Emp't Opportunity Comm'n	34.0%	36.5%	28.8%	24.1%	19.2%	17.5%	21.6%
Fed. Emergency Mgmt. Agency	35.4%	36.9%	40.2%	31.0%	36.0%		
Nat'l Aeronautics & Space Admin.	3.3%	2.0%	1.6%	2.6%	4.6%	3.7%	3.8%
Nat'l Endowment for the Arts	68.0%	57.1%	50.0%	54.8%	50.0%	54.3%	41.2%
Nat'l Sci. Found.	4.9%	2.0%	1.9%	2.0%	2.5%	2.3%	2.3%
R.R. Ret. Bd.	33.3%	26.7%	23.5%	23.5%	28.6%	30.8%	30.8%
Small Bus. Admin.	54.8%	55.2%	44.8%	44.0%	45.2%	53.3%	50.5%
Soc. Sec. Admin.				12.5%	11.2%	12.7%	8.5%

Source: Plum Book data, courtesy of David Lewis.[91] *Packing* is defined as the number of political appointees divided by the sum of political appointees plus Senior Executive Service personnel.

We follow a common approach in the literature by using the natural logarithm of federal outlays as our dependent variable.[92] When we disaggregate the data by district and agency, roughly fifteen percent of the outlays are zero, indicating instances in which a given agency gives no awards to a particular district in a particular year. In these instances, we replace $0 with $1 before making the natural logarithmic transformation. While this approach is admittedly somewhat ad hoc, it appears innocuous in this setting, as there is no substantive difference between receiving $1 or nothing from an agency. We emphasize, moreover, that our findings do not hinge on any particular transformation of the dependent variable. In Appendix II, we show similar results using a variety of different transformations, including no transformation at all.

C. Findings: Agency Design and Political Control

Table 2 presents the results of our analysis. Model (1) of Table 2 estimates a version of equation (1) above and shows the impact of political factors on agency spending, excluding the interaction with agency design features such as agency packing. In terms of interpretation, a positive coefficient on the "Rank-

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91. *See infra* note 109 and accompanying text.

92. *See, e.g.*, Levitt & Snyder, *supra* note 54, at 967 tbl.1.

ing Member" variable means that the district receives more funds in the years in which its representative is a ranking member, all else equal. These are essentially baseline models, replicating the specification in Professors Berry, Burden, and Howell's model[93] but using data disaggregated by agency. The results in model (1) are largely consistent with the existing distributive politics literature. Notably, districts receive more federal funds from agencies when their representative is a member of the President's party. Districts receive more funds when their representative serves as a committee chair or is a ranking committee member. Freshman legislators bring in fewer outlays for their districts than more senior legislators. Representatives elected by slim majorities receive more funds from agencies, which is consistent with the idea that legislators allocate funds to help electorally vulnerable colleagues. Finally, districts receive less federal money when they are represented by Republicans, as previously shown by Levitt and Snyder.[94] The only surprise in model (1) is the negative coefficient for membership on the Ways and Means Committee.

TABLE 2.

AGENCY PACKING AND DISTRICT SPENDING

	(1) Baseline	(2) Politicization	(3) Senate Confirmed	(4) Non-Confirmed
President's party	0.051** (0.023)	0.050** (0.024)	0.050** (0.024)	0.052** (0.024)
x Packing		0.295*** (0.103)	0.245 (0.182)	0.382*** (0.133)
Majority Party	-0.001 (0.030)	-0.004 (0.031)	-0.004 (0.031)	-0.003 (0.031)
x Packing		0.358*** (0.137)	0.831*** (0.211)	0.125 (0.177)
Republican	-0.125*** (0.037)	-0.126*** (0.038)	-0.126*** (0.038)	-0.125*** (0.038)
x Packing		-0.093 (0.157)	-0.025 (0.279)	-0.083 (0.205)
Leader	-0.145 (0.147)	-0.162 (0.151)	-0.160 (0.151)	-0.160 (0.151)
x Packing		0.232 (0.645)	-1.045 (1.047)	1.032 (0.820)
Committee Chair	0.096* (0.057)	0.098* (0.058)	0.098* (0.058)	0.097* (0.058)
x Packing		-0.107	-0.205	0.017

93. Berry et al., *supra* note 57, at 789.

94. Levitt & Snyder, *supra* note 54.

	(1) Baseline	(2) Politicization	(3) Senate Confirmed	(4) Non-Confirmed
		(0.240)	(0.327)	(0.329)
Ranking Member	0.132**	0.123**	0.123**	0.123**
	(0.053)	(0.054)	(0.054)	(0.054)
x Packing		-0.004	0.353	-0.186
		(0.225)	(0.373)	(0.286)
Appropriations	0.045	0.039	0.039	0.039
	(0.045)	(0.046)	(0.046)	(0.046)
x Packing		0.165	0.220	0.229
		(0.181)	(0.331)	(0.256)
Ways and Means	-0.153***	-0.159***	-0.158***	-0.159***
	(0.058)	(0.059)	(0.059)	(0.059)
x Packing		0.232	0.360	0.125
		(0.254)	(0.424)	(0.324)
First Term	-0.084***	-0.084***	-0.083***	-0.084***
	(0.023)	(0.023)	(0.023)	(0.023)
x Packing		0.237**	0.383**	0.245*
		(0.099)	(0.157)	(0.132)
Close Election	0.066**	0.066*	0.066*	0.066*
	(0.033)	(0.034)	(0.034)	(0.034)
x Packing		-0.101	0.142	-0.305*
		(0.136)	(0.247)	(0.179)
Number of observations	203,837	194,735	194,735	194,735
R^2	0.068	0.070	0.070	0.070

*** $p<0.01$, ** $p<0.05$, * $p<0.1$. Observations are district-by-agency-by-year spending allocations. Models include redistricting period-specific district-by-agency fixed effects and year fixed effects. Standard errors clustered by district-agency are in parentheses. Agency Packing is mean-deviated so that coefficients on the other variables reflect the average value of agency packing. Each agency is assigned the value of agency packing for the first year in which it appears in our data; the main effect of packing therefore is subsumed in the fixed effects.

With these baseline models in hand, model (2) estimates a version of equation (2) above. We interact the political variables from the baseline model in the first column with the measure of agency packing. It is the interaction coefficient that contains the core results of the Essay.[95] As explained above, because we include district-by-agency fixed effects in our initial model and because we

95. In all the interaction models, we mean-deviate agency packing so that the main effects of the other variables can be interpreted as the effects for an agency with the average level of packing. Without this mean deviation, the coefficients for the other variables would represent the effects for an agency with zero political appointees, something that does not exist in our data.

utilize time-invariant measures of agency packing, we are unable to estimate the direct effect of agency packing on spending.[96] Rather, we are interested in whether political factors that affect the distribution of federal funds matter more or less for agencies that are more packed with political appointees.

First, consider the interaction between agency packing and a district's representative's membership in the President's party. The main effect of membership remains positive and statistically significant: districts receive more funds from the average agency when represented by a member of the President's party. The interaction term indicates that this effect is larger for more packed agencies. In other words, being represented by a member of the President's party matters more for agencies that are politicized than for those that are not. Figure 3 contains a graph of the marginal effect of membership in the President's party (the y-axis) as a function of agency packing (the x-axis). As the proportion of political appointees in an agency increases by 22 percentage points (i.e., one standard deviation), the marginal increase in funding when a district moves into the President's party increases by roughly 6.7 percentage points. Meanwhile, for highly insulated agencies—those with the lowest level of packing by our measure—a change in membership in the President's party has no significant effect on district funding.

FIGURE 3.

MARGINAL EFFECT OF MEMBERSHIP IN THE PRESIDENT'S PARTY BY AGENCY PACKING
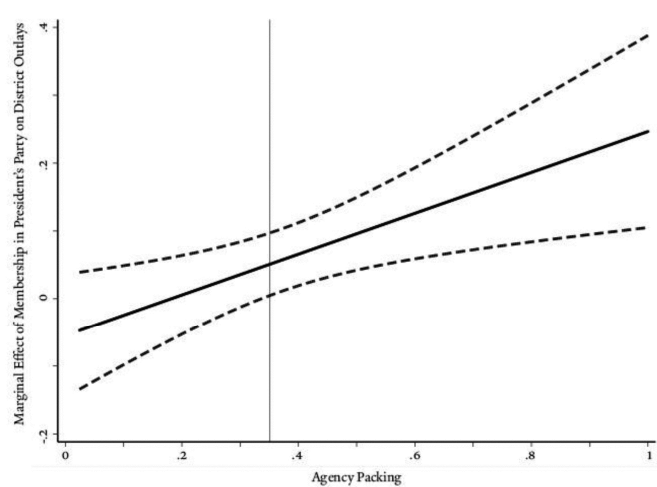

96. We do report the direct effect of packing on spending in Table 3, where we use a time-varying measure of agency packing.

Note. Dotted lines represent 95% confidence interval.

The interaction between agency packing and membership in the House majority party is also significant, positive, and roughly comparable in magnitude to the interaction with membership in the President's party. However, the main effect for membership in the majority party is smaller, and hence we cannot reject the hypothesis that members of the majority party receive no spending advantage from most agencies. Indeed, Figure 4 indicates that the majority party advantage is significantly greater than zero only for the most highly politicized agencies.

FIGURE 4.

MARGINAL EFFECT OF MEMBERSHIP IN THE MAJORITY PARTY BY AGENCY PACKING
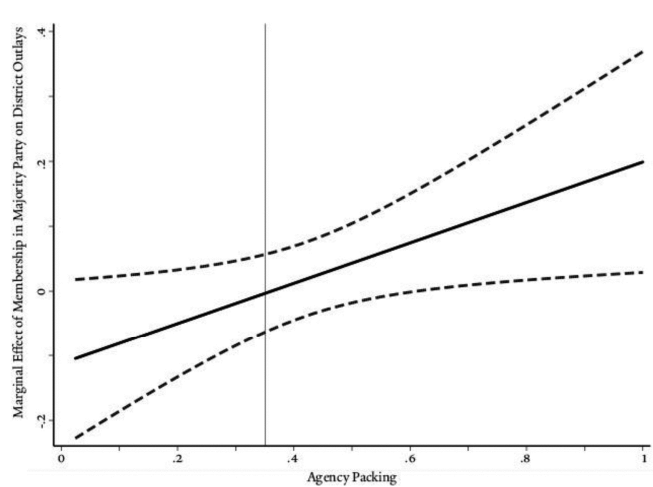
Note. Dotted lines represent 95% confidence interval. Vertical line denotes the average value of agency packing.

Aside from the interactions of agency packing with presidential and majority party alignment, most of the interaction terms do not yield statistically significant results. In other words, while being represented by a ranking committee member or a committee chair, for example, does produce an increase in funds received by the district, that increase does not depend on whether the agency administering those funds is insulated or politicized. Thus, the evidence indicates that agency packing can, but does not always, mediate the nature and extent of political influence on bureaucratic action.

Given evidence that agency packing interacts with presidential and congressional partisan factors, we next attempt to disentangle these two sorts of political influence on agencies. To do so, we distinguish between political ap-

pointees that require Senate confirmation and those that do not. If the requirement of Senate confirmation provides for greater congressional influence—or put differently, less presidential control—then these two sorts of political appointees in an agency could make for two different kinds of political influence. A large percentage of non-Senate-confirmed political appointees should facilitate presidential influence, but not congressional influence. On the contrary, a large portion of appointees on which the Senate must sign off should facilitate legislative influence. The analyses in models (3) and (4) essentially replicate the earlier models using these two different types of agency packing.

The interaction of district political characteristics with the penetration of Senate-approved appointees to an agency is shown in model (3). The interaction term is highly significant for the majority party variable: the agencies with more Senate-confirmed appointees are more responsive when a district's representative moves into (or out of) the majority party. Meanwhile, the interaction term for the President's party remains positive, though it falls just shy of statistical significance (p = 0.12) and is notably smaller than the interaction with the majority party. In other words, agencies with more Senate-confirmed appointees are more responsive to members of the majority party, but not clearly more responsive to members of the President's party. Precisely the opposite is observed with respect to non-Senate-confirmed appointees in model (4). The interaction between packing and membership in the majority party in Congress is statistically insignificant and substantively small. However, the interaction between non-Senate-confirmed appointees and membership in the President's party is positive and highly significant.

Figure 5 depicts the overall pattern of results from models (3) and (4). In summary, agencies with a density of Senate-confirmed appointees are more responsive than agencies with few Senate-confirmed appointees when a district changes majority party status. The proportion of non-confirmed appointees has no relationship to the extent of an agency's responsiveness to members of the majority party. Meanwhile, agencies with more non-Senate-confirmed appointees are more responsive to membership in the President's party than agencies with fewer such appointees. Even Senate-confirmed appointees appear at least weakly responsive to membership in the President's party, although the response is less than with respect to membership in the majority party. This makes good sense. As political appointees integrate into agencies, those that did not have to go through Senate confirmation are likely to be more responsive to the President and less responsive to the legislature. Packing through appointments requiring legislative involvement seems to facilitate responsiveness to both political principals, though more so to the congressional majority.

FIGURE **5.**

MARGINAL EFFECT OF MEMBERSHIP IN THE PRESIDENT'S PARTY AND MAJORITY PARTY BY AGENCY PACKING OF SENATE-CONFIRMED AND NON-CONFIRMED APPOINTEES
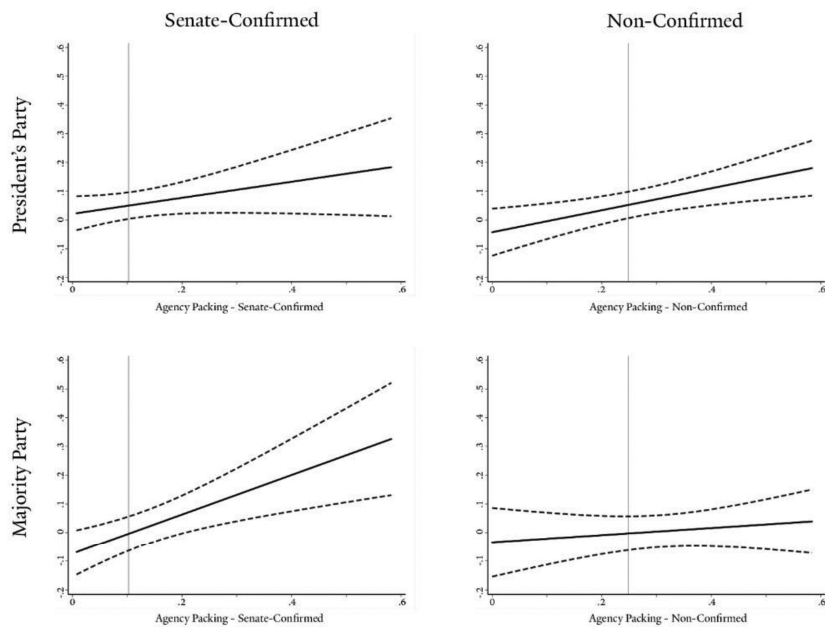
Note. Dotted lines represent 95% confidence interval. Vertical lines denote the average values of agency packing.

D. Other Agency Structures

In principle, our general method can estimate the impact of any measurable agency characteristic on the degree of political responsiveness. Although our direct measure of packing is closely tethered to the existing agency design literature, there are many other ways to expose the bureaucracy to or insulate the bureaucracy from political influence.[97] Almost all of these mechanisms are specified at the time an agency is created; thus, existing scholarship tends to

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97.   *See* LEWIS, *supra* note 16, at 39-69.

emphasize the political conditions during that time period, taking agency structure as the *dependent* variable to be explained.[98] In this Essay, we reverse direction and take agency structure as the *independent* variable. In this Section, we discuss a handful of the most common other mechanisms of structural insulation that can be analyzed using our data and method.

The results—not shown due to space constraints—reveal few robust associations between these other prominent features of agency design and political responsiveness. Replicating models discussed above but replacing the packing variable with other attributes generally produces insignificant interactions with district political variables. We do find evidence that agencies governed by a board or commission structure are more responsive to members of the majority party—i.e., there is a significant interaction between a "commission" indicator and the majority party dummy (but not the President's party dummy). We emphasize caution with respect to this result, however, for two reasons. First, the existence of a commission structure is virtually coterminous with other variables like term limits and limits on presidential removal power.[99] Any one of these mechanisms might be driving the result and they are essentially observationally equivalent in our data. Second, and relatedly, there are only four commissions in our data and hence we are reluctant to draw firm conclusions based on these results.

Lewis finds robust empirical relationships between political conditions that exist at the time of an agency's creation and design features he associates with agency insulation.[100] We ask whether those same factors are themselves associated with changes in political responsiveness. Having more branches of government controlled by Democrats at the time of the agency's founding does not make an agency more responsive to membership in the Democratic Party (or any other political variable). Agencies founded during periods of divided government are no more or less politically responsive than those founded during times of unified government. Likewise, the ideology of the President in office at the time of the agency's founding, as measured by his NOMINATE score, a one-dimensional measure of ideology based on a member's roll-call voting record, does not affect political responsiveness.[101]

There are some categories of hypotheses in the literature that we simply cannot test using our data and method. Some important agencies—for exam-

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98. Epstein & O'Halloran, *supra* note 16, at 58; Lewis, *supra* note 16, at 39-69.

99. *See* Lewis, *supra* note 16, at 57.

100. *Id.* at 39-69.

101. *See generally* Keith T. Poole & Howard Rosenthal, Congress: A Political-Economic History of Roll Call Voting (2000) (introducing NOMINATE scoring).

ple, the Federal Elections Commission or the Food and Drug Administration—do not spend much money on grant awards, and hence our model can say little about their political responsiveness. In addition, some agency structures that are hypothesized to affect political responsiveness do not actually vary across the agencies in our data set. For example, no fund-awarding agency is located within the Executive Office of the President (EOP), and hence we cannot test whether agencies in the EOP are more or less politically responsive. Similarly, there are some agency attributes that are either not available at an appropriate level of aggregation or not easily quantifiable in a manner suitable for our analysis. For instance, the seminal work of McCubbins, Noll, and Weingast emphasizes agency procedures that require public notice and hearings, which have no natural analog in agency grant making.[102] We have no reason to question the hypothesis that procedural requirements articulated in the APA or an agency's organic statute influence political control of the bureaucracy, but because the rules apply to all agencies, it is a challenging hypothesis to test empirically.

E. Interpretation and Mechanisms

Our results demonstrate a relationship between agency structure and the political responsiveness of agency spending. Agencies with more political appointees are more responsive to moves into or out of the President's party when making spending allocations. Moreover, agencies with more Senate-confirmed appointees are more responsive to the membership in the majority party than the President's party, while agencies with more non-Senate-confirmed appointees are more responsive to the President's party than the majority party.

How one interprets these relationships—that is, whether one believes they are causal or coincidental—will depend on one's beliefs about the sources of variation in packing across agencies. The prevailing view in the literature is that an agency's level of insulation is heavily determined by the political conditions at the time of its founding.[103] If agency packing is determined by initial political conditions, and if past political conditions do not otherwise influence an agency's current spending decisions, then agency packing can safely be regarded as exogenous for the purposes of our analysis. For instance, a common view is that during times of divided government, Congress will seek to insulate newly formed agencies from presidential influence by minimizing the number of

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102. McCubbins et al., *Administrative Procedures*, *supra* note 25, at 258; McCubbins et al., *Structure and Process*, *supra* note 25, at 442.

103. *See* EPSTEIN & O'HALLORAN, *supra* note 16, at 11; LEWIS, *supra* note 16, at 181.

political appointees relative to career civil servants.[104] If this is so, and if being founded during a time of divided government does not otherwise shape an agency's future spending decisions, then our estimates can be interpreted causally.

Another plausible view of agency packing is that the President seeks to place political appointees in those agencies that are otherwise expected to be least supportive—ideologically or programmatically—of the President.[105] Under this view, the extent of packing is influenced by expectations about the agency's future political responsiveness (or lack thereof). This is a form of endogeneity that would bias us *against* finding effects of packing on responsiveness to the President. In other words, our results for membership in the President's party would likely be biased downward if it were the case that the most politicized agencies would be the most unresponsive to the President if the political appointees were removed.

Our results would be biased upward if political principals placed more appointees in those agencies that would be the most responsive anyway. While, admittedly, we cannot directly reject this possibility with data, we are skeptical about the existence of this form of endogeneity for two reasons. First, the existing literature on the origins of agency packing offers evidence decisively in favor of the opposite view.[106] There is more evidence that presidents seek to increase the number or proportion of political appointees in agencies that would otherwise be ideologically opposed to them. In the most thorough study of the topic, Lewis argues that presidents seek to increase control over agencies that have policy views that traditionally align with the opposing party by placing more political appointees in those agencies.[107] Second, our results show not only a general relationship between agency packing and responsiveness, but differential results for Senate-confirmed versus non-Senate-confirmed appointees. Agencies with non-Senate-confirmed appointees are responsive to membership in the President's party, but not the majority party, while agencies with Senate-confirmed appointees are more responsive to membership in the majority party than in the president's party. Any plausible alternative explanation for our findings would have to account for these differences, and we have yet to

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104. *See* Pablo T. Spiller & Santiago Urbiztondo, *Political Appointees Vs. Career Civil Servants: A Multiple Principals Theory of Political Bureaucracies*, 10 EUR. J. POL. ECON. 465, 465-66 (1994).

105. LEWIS, *supra* note 9, at 66.

106. *See* JOEL D. ABERBACH & BERT A. ROCKMAN, IN THE WEB OF POLITICS: THREE DECADES OF THE U.S. FEDERAL EXECUTIVE 31, 36 (2000); LEWIS, *supra* note 9, at 66; Anthony Bertelli & Sven E. Feldmann, *Strategic Appointments*, 17 J. PUB. ADMIN. RES. & THEORY 19, 25 (2007).

107. LEWIS, *supra* note 9, at 139; *see also* David E. Lewis, *Presidential Appointments and Personnel*, 14 ANN. REV. POL. SCI. 47, 50 (2011).

identify an endogenous account of agency packing that would spuriously generate both sets of results.

To this point, we have said relatively little about the precise mechanisms by which agency design might facilitate political control. Indeed, our results are consistent with two different types of political influence over agencies. One interpretation of our results is that agencies are proactively seeking to curry favor with legislators by distributing grants to influential members. This theory would be consistent with Arnold's 1974 work, which argued that agencies distribute funds in order to gain favor and maintain legislative support for agency-administered programs.[108] However, importantly, our main empirical finding is not that agencies funnel funds to important districts, but rather that more structurally insulated agencies do so at lower rates than less insulated agencies.

A second interpretation therefore runs roughly as follows. The actual—rather than legislatively agreed upon—distribution of federal funds depends on imperfect bureaucratic agents with preferences potentially divergent from those of the Congress or the President. The ability to select certain individuals that will make decisions about the distribution of federal funds should allow a principal to select the "right type" of appointee: that is, an appointee with preferences sympathetic to the principal. Although our data cannot demonstrate that this mechanism is driving the empirical results, they are at least consistent with this story. Agencies with more appointees subject to legislative confirmation are more responsive to legislature-centered political factors. Agencies with more appointees that do not require legislative confirmation and that are, therefore, picked solely by the President are more sensitive to presidential political factors. Ex post mechanisms of control might also facilitate political influence, but ex post mechanisms of control such as oversight hearings and budgetary sanctions are generally equally applicable to agencies dominated by both sorts of appointees. The ex ante selection effect seems quite consistent with the results from Table 2.

CONCLUSION

This Essay draws together two largely disparate literatures in an attempt to make headway on perhaps the central problem in agency design and administrative law. By focusing on the distribution of federal funds by administrative agencies, we sought to test the proposition that agency design facilitates the control of the bureaucracy by the Congress and the President. Our main results

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108. *See* ARNOLD, *supra* note 10.

demonstrate that one prominent structural feature of agency design—namely, the extent of high-level personnel politicization, or *packing*—actually affects the degree of political responsiveness by the agency. So far as we are aware, this is the first paper with an empirical strategy capable of showing an actual link between agency structure and political influence. To establish this link, we focus on an output common across agencies: the distribution of federal funds. The results have implications for the literatures on agency design, distributive politics, and control of agencies by the President and Congress. To be sure, our analysis focuses only on one type of agency output: agency spending. We cannot rule out the possibility that agency behavior with respect to rulemakings and adjudications differs entirely. Nor can we persuasively analyze all features of agency design that might facilitate political control. Nevertheless, we believe our method and analysis provide a novel approach to one of the core issues in the modern study of political institutions.

APPENDIX I. ROBUSTNESS

In order to assess the robustness of our results, we ran a series of auxiliary models that varied case selection and model specification. First, we re-estimated the basic models of Table 2 using time-varying measures of agency packing. The data necessary to compute agency packing are available every four years from the *United States Government Policy and Supporting Positions* ("Plum Book")[109] and we linearly interpolated the values for the intervening years to produce annual estimates of agency packing. Those results are shown in Table 3. Importantly, our estimates of the interactions between agency packing and membership in the President's and majority parties, respectively, do not change notably. If anything, the interaction terms become a bit larger when using the time-varying measure of packing. The estimated main effect of agency packing is itself negative, indicating that agencies receive smaller budgets at times when they are more packed.[110] This result is true with respect to packing by non-Senate-confirmed appointees (model (3)) but not with respect to packing by Senate-confirmed appointees (model (2)), which could be interpreted as evidence that Congress attempts to tie the purse strings of agencies when they fall under greater presidential control. As indicated above, however, we are hesitant to make much of agency packing main effects in the time-varying results.

TABLE 3.

TIME-VARYING AGENCY PACKING

	(1) Politicization	(2) Senate Confirmed	(3) Non-Confirmed
Agency Packing	-2.400***	0.443	-2.015***
	(0.388)	(0.345)	(0.281)

109. *See* LEWIS, *supra* note 9. For the 2012 version of the Plum Book, see COMM. ON OVERSIGHT AND GOV'T REFORM, 12TH CONG., UNITED STATES GOVERNMENT POLICY AND SUPPORTING POSITIONS (Comm. Print 2012), http://www.gpo.gov/fdsys/pkg/GPO-PLUMBOOK-2012/pdf/GPO-PLUMBOOK-2012.pdf [http://perma.cc/A98Y-DU4J].

110. This result seems consistent with the conclusions reached by Nolan McCarty. *See* Nolan McCarty, *The Appointments Dilemma*, 48 AM. J. POL. SCI. 413, 413-28 (2004). When the legislature has proposal power over resources given to bureaucrats but has limited control over personnel, except through confirmation of the President's choices, outcomes can be inefficient. *See id.* at 420-21 (exploring the influence of confirmation power on the relationship between the executive and the legislative branches). If the President selects an official whose preferences diverge too much from those of the legislature, the legislature responds by reducing resources available to the agency.

	(1) Politicization	(2) Senate Confirmed	(3) Non-Confirmed
President's party	0.051**	0.046*	0.051**
	(0.024)	(0.024)	(0.024)
x Packing	0.394***	0.264	0.460***
	(0.113)	(0.179)	(0.128)
Majority Party	-0.005	-0.005	-0.006
	(0.031)	(0.031)	(0.031)
x Packing	0.283**	0.595***	0.063
	(0.143)	(0.189)	(0.172)
Republican	-0.122***	-0.124***	-0.122***
	(0.039)	(0.039)	(0.039)
x Packing	-0.016	-0.078	0.024
	(0.161)	(0.242)	(0.189)
Leader	-0.190	-0.190	-0.188
	(0.154)	(0.154)	(0.153)
x Packing	0.314	-0.301	0.705
	(0.645)	(0.840)	(0.785)
Committee Chair	0.097*	0.098*	0.097*
	(0.058)	(0.058)	(0.059)
x Packing	-0.096	-0.169	-0.043
	(0.240)	(0.284)	(0.311)
Ranking Member	0.120**	0.121**	0.121**
	(0.054)	(0.054)	(0.055)
x Packing	-0.011	0.179	-0.165
	(0.229)	(0.339)	(0.273)
Appropriations	0.045	0.044	0.044
	(0.047)	(0.047)	(0.047)
x Packing	0.305*	0.200	0.392*
	(0.182)	(0.276)	(0.238)
Ways and Means	-0.165***	-0.164***	-0.166***
	(0.060)	(0.060)	(0.060)
x Packing	0.146	0.190	0.112
	(0.254)	(0.351)	(0.293)
First Term	-0.078***	-0.077***	-0.078***
	(0.024)	(0.024)	(0.024)
x Packing	0.299***	0.388***	0.243*
	(0.100)	(0.137)	(0.127)
Close Election	0.066*	0.066*	0.066*
	(0.034)	(0.034)	(0.035)
x Packing	-0.165	-0.021	-0.267

	(1) Politicization	(2) Senate Confirmed	(3) Non-Confirmed
	(0.138)	(0.219)	(0.170)
Number of observations	191,388	191,388	191,388
R²	0.072	0.071	0.072

*** *p*<0.01, ** *p*<0.05, * *p*<0.1. Observations are district-by-agency-by-year spending allocations. Models include redistricting period-specific district-by-agency fixed effects and year fixed effects. Standard errors clustered by district-agency are in parentheses. Agency Packing is mean-deviated so that coefficients on the other variables reflect the average value of agency packing. Packing is allowed to vary within an agency over time.,

While pooling multiple agencies together is a key contribution of this Essay, one concern may be that pooling agencies as disparate as the SSA and the ARC is problematic, not least because of the vast differences in the size of their budgets. To a large extent, our district-by-agency fixed effects address this problem by limiting the analysis to intra-agency changes in spending over time; that is, we compare *changes* in spending within the SSA across years to *changes* in spending in the ARC across years, effectively discarding the average difference in the level of spending between the two agencies. As a further robustness exercise, however, we also removed major entitlement programs from the data. We did so by following a tactic originally proposed by Professors Levitt and Snyder, which is to divide federal programs into "high-variation" and "low-variation" categories.[111] The low-variation category includes twenty-six major federal programs—all of which are housed in the SSA, the Department of Health and Human Services (mostly programs within the Centers for Medicare & Medicaid Services), the Department of Veterans Affairs, and the Railroad Retirement Board—that together account for seventy-six percent of total spending in our data set. The high-variation category includes hundreds of smaller programs. If major entitlement programs are less susceptible to political manipulation, we should expect to see our results upheld for the high-variation category but not necessarily for the low-variation category. Indeed, this is precisely what we find, as demonstrated in models (1) and (2) of Table 4. The results for high-variation programs essentially mirror those shown above, while all but one coefficient in the low-variation model is insignificant. The one significant coefficient is the interaction between agency packing and membership in the President's party, although the substantive magnitude is vanishingly

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111. For details, see the appendix of Berry et al., *supra* note 57; and Levitt & Snyder, *supra* note 54.

small: moving from a completely insulated to a completely politicized agency increases the presidential party's spending advantage by one percentage point.

TABLE 4.

ROBUSTNESS

	(1) High-Variation Programs	(2) Low-Variation Programs	(3) Jackknife	(4) Dropping State Capitals
President's party	0.051**	-0.002	0.050*	0.023
	(0.025)	(0.001)	(0.028)	(0.029)
x Packing	0.309***	0.011**	0.295*	0.361***
	(0.108)	(0.005)	(0.162)	(0.125)
Majority Party	-0.004	0.001	-0.004	0.001
	(0.032)	(0.002)	(0.037)	(0.037)
x Packing	0.369**	0.002	0.358***	0.393**
	(0.144)	(0.007)	(0.137)	(0.162)
Republican	-0.135***	0.001	-0.126**	-0.148***
	(0.040)	(0.002)	(0.051)	(0.051)
x Packing	-0.157	-0.006	-0.093	-0.168
	(0.165)	(0.008)	(0.258)	(0.201)
Leader	-0.193	0.004	-0.162	-0.040
	(0.160)	(0.010)	(0.148)	(0.182)
x Packing	0.477	0.010	0.232	-0.087
	(0.685)	(0.032)	(0.675)	(0.680)
Committee Chair	0.101*	0.003	0.098	0.101
	(0.061)	(0.004)	(0.062)	(0.069)
x Packing	-0.102	-0.010	-0.107	0.021
	(0.252)	(0.015)	(0.246)	(0.284)
Ranking Member	0.129**	-0.001	0.123**	0.145**
	(0.057)	(0.003)	(0.061)	(0.062)
x Packing	-0.015	0.014	-0.004	-0.168
	(0.236)	(0.012)	(0.211)	(0.253)
Appropriations	0.041	0.001	0.039	0.039
	(0.048)	(0.003)	(0.050)	(0.057)
x Packing	0.171	-0.007	0.165	0.243
	(0.190)	(0.009)	(0.176)	(0.219)
Ways and Means	-0.163***	-0.001	-0.159***	-0.147**
	(0.062)	(0.004)	(0.043)	(0.071)
x Packing	0.273	0.009	0.232*	0.117
	(0.267)	(0.012)	(0.136)	(0.309)

	(1) High-Variation Programs	(2) Low-Variation Programs	(3) Jackknife	(4) Dropping State Capitals
First Term	-0.087***	0.001	-0.084***	-0.068**
	(0.025)	(0.002)	(0.025)	(0.029)
x Packing	0.244**	0.005	0.237	0.344***
	(0.104)	(0.006)	(0.161)	(0.120)
Close Election	0.072**	-0.001	0.066*	0.029
	(0.036)	(0.002)	(0.039)	(0.042)
x Packing	-0.119	0.002	-0.101	-0.123
	(0.143)	(0.006)	(0.165)	(0.163)
Number of observations	194,735	194,735	194,735	155,721
R2	0.075	0.032	0.070	0.067

*** $p<0.01$, ** $p<0.05$, * $p<0.1$. Observations are district-by-agency-by-year spending alloca-tions. Models include redistricting period-specific district-by-agency fixed effects and year fixed effects. Standard errors clustered by district-agency are in parentheses for models (1) to (3). Agency Packing is mean-deviated so that coefficients on the other variables reflect the average value of agency packing. Each agency is assigned the value of agency packing for the first year in which it appears in our data; the main effect of packing therefore is subsumed in the fixed effects. Models (1) and (2) examine high- and low-variation programs (see text for definitions), respec-tively. Model (3) estimates standard errors by jackknifing over agencies. Model (4) excludes all districts that contain part of a state capital county.

As further evidence that our results are not being driven by any particular agency, we reran our model repeatedly, dropping one agency at a time. The re-sulting jackknifed standard errors are reported in model (3) of Table 4. Alt-hough the standard errors are, naturally, larger using this approach, all of the results of interest remain statistically significant at conventional levels. In addi-tion, we tried a number of more ad hoc approaches (results not shown). We dropped the SSA and the Department of Health and Human Services, which are the two largest agencies in our sample. We also tried removing the ARC and the Corporation for National and Community Service, which are the two most heavily packed agencies in our sample. In each case, the results do not vary in any significant manner.[112]

A well-known issue with the FAADS data is that grants going to a state government are credited to the congressional district in which the state capital is located.[113] As a result, the state capital district's representative appears (spu-

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112. Complete results are available from authors upon request.

113. *See, e.g.*, STEIN & BICKERS, *supra* note 66, at 159; Levitt & Snyder, *supra* note 54, at 963.

riously) to be remarkably successful in winning federal projects. Our working assumption has been that the district-by-redistricting period fixed effects satisfactorily account for this issue. To validate this assumption, we also reran the model without including state capital districts. The results, shown in model (4) of Table 4, are not significantly different with this exclusion.

APPENDIX II. FUNCTIONAL FORM

As discussed in the text, we take the natural logarithm of federal outlays as our dependent variable, which is a standard practice in the literature.[114] In seventeen percent of cases, the dependent variable is equal to zero—i.e., the district received no funding from a particular agency—meaning that the log value is undefined. In these cases, we assign outlays a value of $1, meaning that the log value is zero. We view this approach as relatively innocuous in our setting, since there is no difference, substantively, between receiving $1 or $0 from an agency in a particular congressional district. We recognize, however, that the approach is ad hoc, and in this Appendix we show that our results are robust to a wide range of alternative transformations of the dependent variable.

Table 5 reports the results of models that replicate the specification from our main results as reported in model (2) of Table 2 in the text. In each case, the dependent variable is transformed in a different way. Because the dependent variable is on a different scale in each model, the magnitudes of the coefficients cannot be compared directly across the columns. To aid interpretation, at the bottom of the table we report standardized coefficients for our main independent variable of interest, the interaction between agency packing and the presidential party dummy variable. We standardize each coefficient by dividing it by the within-unit standard deviation of the dependent variable (because our identification comes from within-unit variation).

TABLE 5.

FUNCTIONAL FORM

	(1) Log + 01	(2) Log + 10	(3) IHS	(4) Square Root	(5) Tobit	(6) Raw Data
President's party	0.064**	0.057**	0.052**	11.478	0.082***	-250,298
	(0.031)	(0.027)	(0.025)	(19.643)	(0.024)	(556,443)
x Packing	0.404***	0.350***	0.312***	197.167***	0.292***	3,665,507***
	(0.138)	(0.120)	(0.108)	(65.563)	(0.108)	(1,396,727)
Majority Party	-0.005	-0.004	-0.004	7.839	-0.026	(-5,453)
	(0.041)	(0.036)	(0.032)	(24.615)	(0.024)	(584,829)
x Packing	0.432**	0.395**	0.369**	247.291***	0.455***	2,957,501**
	(0.182)	(0.159)	(0.144)	(82.903)	(0.111)	(1,466,087)
Republican	-0.165***	-0.145***	-0.131***	-10.544	-0.176***	-285,562

114. *See, e.g.*, Levitt & Snyder, *supra* note 54.

	(1) Log + 01	(2) Log + 10	(3) IHS	(4) Square Root	(5) Tobit	(6) Raw Data
	(0.051)	(0.045)	(0.040)	(28.536)	(0.032)	(652,325)
x Packing	-0.116	-0.104	-0.096	-126.945	0.017	2,226,799
	(0.209)	(0.183)	(0.164)	(96.590)	(0.145)	(1,599,456)
Leader	-0.208	-0.185	-0.169	-224.248*	-0.196	-7,744,640**
	(0.202)	(0.176)	(0.159)	(135.316)	(0.125)	(3,817,218)
x Packing	0.346	0.289	0.250	-327.530	-0.176	-8,857,909
	(0.873)	(0.758)	(0.679)	(407.243)	(0.591)	(9,042,534)
Committee Chair	0.129*	0.113*	0.102*	38.595	0.076	-661,329
	(0.078)	(0.068)	(0.061)	(42.225)	(0.052)	(1,032,998)
x Packing	-0.125	-0.116	-0.109	-34.857	-0.091	-986,060
	(0.320)	(0.280)	(0.252)	(146.666)	(0.244)	(2,640,107)
Ranking Member	0.164**	0.144**	0.129**	-15.745	0.187***	-1,003,041
	(0.072)	(0.063)	(0.057)	(38.732)	(0.051)	(995,661)
x Packing	-0.048	-0.026	-0.011	230.851*	0.151	2,575,798
	(0.303)	(0.264)	(0.236)	(132.707)	(0.240)	(2,466,007)
Appropriations	0.047	0.043	0.040	-1.605	0.129***	997,524
	(0.062)	(0.054)	(0.049)	(34.473)	(0.043)	(932,323)
x Packing	0.239	0.202	0.176	-130.459	0.282	-2,646,505
	(0.244)	(0.212)	(0.190)	(112.555)	(0.197)	(2,228,666)
Ways and Means	-0.204**	-0.181***	-0.166***	-88.045**	-0.033	-1,937,887*
	(0.080)	(0.069)	(0.062)	(38.361)	(0.049)	(1,007,435)
x Packing	0.328	0.280	0.247	-66.351	0.149	-867,996
	(0.344)	(0.299)	(0.268)	(127.686)	(0.227)	(2,508,253)
First Term	-0.109***	-0.096***	-0.088***	-35.806**	-0.068***	-513,180
	(0.032)	(0.027)	(0.025)	(14.923)	(0.024)	(356,591)
x Packing	0.278**	0.258**	0.244**	173.149***	0.200*	981,589
	(0.134)	(0.117)	(0.105)	(48.357)	(0.109)	(853,689)
Close Election	0.075	0.071*	0.068*	45.217**	0.060*	608,126
	(0.046)	(0.040)	(0.036)	(21.654)	(0.033)	(557,599)
x Packing	-0.118	-0.110	-0.104	16.667	-0.067	-1,288,225
	(0.184)	(0.160)	(0.143)	(68.635)	(0.157)	(1,341,611)
Standardized Coefficient President x Packing	0.135	0.134	0.133	0.153	0.131	0.082
Number of observations	194,735	194,735	194,735	194,735	194,735	194,735
R^2	0.059	0.064	0.068	0.067		0.161

*** $p<0.01$, ** $p<0.05$, * $p<0.1$. Observations are district-by-agency-by-year spending allocations. Models include redistricting period-specific district-by-agency fixed effects and year fixed effects. Standard errors clustered by district-agency are in parentheses. Agency Packing is mean-

deviated so that coefficients on the other variables reflect the average value of agency packing. Each agency is assigned the value of agency packing for the first year in which it appears in our data; the main effect of packing therefore is subsumed in the fixed effects. In model (1) the dependent variable is log (federal spending plus one cent). In model (2) the dependent variable is log (federal spending plus $10). In model (3) the dependent variable is the inverse hyperbolic sine of federal spending. In model (4) the dependent variable is the square root of federal spending. In model (5) the dependent variable is federal spending (untransformed). Model (6) is estimated by random effects Tobit and the dependent variable is log (federal spending + 1).

In models (1) and (2) respectively, we replace zeroes in the dependent variable with $0.01 and $10.00 — rather than $1 as in the main text — before making the log transformation, to show that the size of the constant we add is not particularly consequential. In model (3), we use the inverse hyperbolic sine (IHS) function, which admits zero values but behaves like the log transformation for larger values.[115] In model (4), we take the square root of expenditures of the dependent variable. The square root is obviously defined for zeroes and reduces right skewness, although it is a weaker transformation than the logarithm in the latter respect. Model (5) reports the results of a random effects Tobit model in which the dependent variable is log transformed. Finally, model (6) reports a model in which we make no transformation of the dependent variable at all.

The substantive results of our analysis change little across the various transformations of the dependent variable shown in Table 5. For our main independent variable of interest, the standardized coefficients (shown at the bottom of the table) are essentially identical across models (1), (2), (3), and (5). The standardized coefficient is a bit larger when using the square root transformation (model 4) and smaller when using the raw data (model 6), but in every case the result is significant, in the expected direction, and of roughly

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115. *See* Burbidge et al., *Alternative Transformations To Handle Extreme Values of the Dependent Variable*, 83 J. AM. STAT. ASS'N 123 (1988). The IHS transformation of *y* is defined as: $\log(y+\sqrt{y^2+1})$. Except for very small values of *y*, the IHS transformation is approximately equal to the log transformation, meaning that coefficients can be interpreted in the same way as with a logarithmic dependent variable. For reviews of the IHS transformation as an alternative to the log transformation when the dependent variable can have zero values, see, for example, MacKinnon & McGee, *Transforming the Dependent Variable in Regression Models*, 31 INT'L ECON. REV. 315 (1990), and Zhang et al., *An Application of the Inverse Hyperbolic Sine Transformation — A Note*, 1 HEALTH SERVS. & OUTCOMES RES. METHODOLOGY 165 (2000). For an economics journal editor's discussion of the advantages of the IHS transformation, see Frances Woolley, *A Rant on Inverse Hyperbolic Sine Transformations*, WORTHWHILE CANADIAN INITIATIVE (July 5, 2011), http://worthwhile .typepad.com/worthwhile_canadian_initi/2011/07/a-rant-on-inverse-hyperbolic-sine-trans formations.html [http://perma.cc/ZB29-3KUA].

comparable magnitude. We conclude, therefore, that our results are not highly sensitive to choices about the transformation of the dependent variable.