The Constraining Power of the Purse: Executive Discretion and Legislative Appropriations *

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Abstract

Discretion is fundamental to understanding inter-branch interactions in the United States separation of powers system. Yet, measuring discretion in order to test theories of delegation is challenging. The few existing measures have difficulty capturing both delegation and constraint in a consistent way over time. In this paper, we seek to overcome these challenges by offering a novel measure of executive discretion based on legislative appropriations to all agencies, weighted by the spending limitations imposed on these agencies found within appropriations committee reports. We first validate this measure by using it to test the "ally principle," finding that Congress gives greater discretion to agencies when more ideologically aligned with the president. We also use this new dataset to explore hypotheses from the literature about legislative preference heterogeneity and committee control of agencies. Overall, this measure offers a versatile measure of discretion that researchers can use to explore a variety of questions in American politics.

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1 Introduction

One of the most consequential powers of the executive branch is its ability to influence policy outcomes through implementation, potentially moving policy to a substantially different place relative to where Congress originally intended in legislation (Epstein and O'Halloran 1994; McCubbins, Noll and Weingast 1987; 1989; Shepsle 1992). To prevent such "bureaucratic drift," Congress can impose a number of control mechanisms upon the bureaucracy including administrative procedures, agency design, appointments, budgets, audits, and oversight hearings. These mechanisms have become fundamental to constraining executive power. Accordingly, there is a rich body of theoretical and empirical research examining these methods of congressional control (Aberbach 1990; Balla 2000; Bawn 1995; Drotning and Rothenberg 1999; Kriner and Schwartz 2008; Lewis 2008; MacDonald 2007; Mayhew 1991; McCubbins, Noll and Weingast 1987; 1989; McCubbins and Schwartz 1984; Ting 2002; Wood and Bohte 2004).

Congress's ability to delegate statutory authority to agencies also serves as an essential tool in limiting the executive branch. As such, understanding delegation is essential to understanding the operations and interactions of governmental institutions. Consequently, scholars frequently ask questions about who delegates, when and why delegation occurs, and to which agents principals choose to delegate. With delegation also comes discretion. Not only is it important to examine whether a principal (Congress) chooses to assign a responsibility to an agent (executive branch agencies), but it is also important to understand how much leeway is given to the agent in carrying out these tasks.

As a result, there is a rich theoretical literature that has explored these questions, producing hypotheses ripe for empirical testing (Bendor, Glazer and Hammond 2001; Bendor and Meirowitz 2004; Epstein and O'Halloran 1994; Gailmard and Patty 2007; Huber and McCarty 2004; Volden 2002). However, unlike other concepts in separation of powers politics, empirical scrutiny of these questions surrounding delegation has lagged, largely due to the difficulty of measuring discretion. Although there are a handful of studies attempting to empirically examine discretion, many of these measures only capture constraints and not grants of delegated authority (Balla 2000; Bawn

1997; MacDonald 2010). In particular, measures of discretion based on word count or page length (Clinton et al. 2012; Huber and Shipan 2002) may overlook important details within statutes that grant authority with their focus on constraining mechanisms.

Even the few existing measures of executive discretion that capture both delegation and constraint are not without their weaknesses. For instance, while Epstein and O'Halloran (1999) examine both components of discretion, their measure is limiting in that it only focuses on a small subset of legislation and overlooks key aspects of these bills. Further, since this measure relies on the authorizing process, it is difficult to gauge discretion consistently across time given difficulties in passing legislation as well as heterogeneity in the frequency and content of significant laws from year to year. Additionally, it may be difficult to isolate discretion given to different agencies as well as make comparisons across time with both of these measures.

Given the numerous challenges in measuring discretion, theories of congressional delegation to the bureaucracy have not been properly evaluated or have yet to be empirically explored. Not only does this measurement deficit have implications for testing theories of delegation, but also for thoroughly examining other separation of powers and policymaking theories that implicitly rely on delegation and discretion (e.g. Howell 2003; Wildavsky 1966). Consequently, there is a fundamental mismatch between theory-building and empirical testing in the extant literature.

To address this gap in the literature, we seek to propose a new measure of discretion given to agencies based on all appropriations legislation passed by Congress for fiscal years 1976 through 2013. Here, discretion is measured by summing the total amount of budget authority given to an agency and weighting it by the number of pages devoted to instructing agencies on how to use their appropriation. This measure improves upon previous ones in a number of ways. First, it accounts for both delegation and constraints, in contrast to most existing measures, and thus properly measures theoretically-based conceptualizations of discretion. Second, it accounts for the exact amount of spending authority delegated to an agency as well as its spending limitations, thus more precisely reflecting executive discretion. As such, it ameliorates the difficulties of previous measures in attributing discretion to specific agencies. It also makes it simpler to link the agency to a particular congressional principal (in this case, the appropriations committee and subcommittees). Finally, it provides a consistent measure of discretion over time for all agencies given that appropriations legislation must be passed each year. In contrast, authorizing legislation is not required to pass yearly, yielding estimates of discretion that are difficult to compare across time and are subject to selection bias criticisms.

We explore the validity of our new measure by using it to test the most prominent empirical implication of delegation theories– the ally principle. We find results strongly consistent with this prediction, i.e. ideological divergence between Congress and the executive is associated with less discretion. This suggests the validity of our measure. Then, we use the measure to explore theoretical arguments about the role of ideological heterogeneity in Congress and committee control to illustrate its further utility in evaluating theories. We believe that this measure has vast potential for the testing of other separation of powers and policymaking theories that, to this point, have been somewhat difficult to test without a reliable measure of discretion.

The remainder of the paper proceeds as follows. We first provide background on previous theoretical studies of delegation and previous measures of executive discretion in Section 2. This is followed by a description of our new measure of discretion in Section 3. In order to validate the measure, Section 4 presents empirical tests of the ally principle, followed by an empirical examination of committee heterogeneity in Section 6. Finally, we discuss our findings and offer concluding remarks in Section 7.

2 Discretion: Concepts and Measurement

2.1 Overview of Congressional Control Over the Bureaucracy

The executive branch is constitutionally responsible for implementing and enforcing laws passed by Congress. As a result, an executive, when left to its own devices, can have a significant influence on policy outcomes. This can be particularly problematic for a Congress that is ideologically-opposed to a given executive branch agent on how the law should be implemented, potentially leading to instances where agency implementation is not in line with congressional preferences. Although the legislature often must rely on an extensive and expert bureaucracy to carry out the law, it is not powerless to control it. Congress has developed a variety of means to check executive power.

In general, these mechanisms to reign in the executive branch can generally be divided into two types: ex ante and ex post controls.[1] Ex post controls are methods the legislature uses to constrain an executive action after it has occurred. Several scholars study the occurrence of these controls, which include high profile investigations, oversight hearings, auditing, and legislative review of agency regulations and programs (Balla 2000; Hamm and Robertson 1981; Kriner and Schickler 2014; 2016; Kriner and Schwartz 2008; MacDonald and McGrath 2015; Marvel and McGrath 2015; Mayhew 1991; McGrath 2013*a*).

On the other hand, ex ante controls are devices, usually written into statute, Congress can impose upon agencies that constrain their actions before they are taken. For instance, some research examines the ways in which Congress can detail the structure and design of agencies at their creation, thus constraining the scope of their actions and the degree of insulation from presidential control (Lewis 2003; Wood and Bohte 2004). Additionally, Congress can write procedural or administrative constraints in statutes that specify exactly how agencies should implement policy.

One of the most important means of ex ante control is the legislature's ability to tailor the discretion it gives to the executive branch through statutes. While various types of procedural constraints within statutes are well-studied (Bawn 1995; 1997; Drotning and Rothenberg 1999; Martin 1997; MacDonald, Franko et al. 2007; Macdonald 2013; McCubbins, Noll and Weingast 1987; 1989; McCubbins and Schwartz 1984; Potoski 1999; Potoski and Woods 2001; Spence 1999), they are just one aspect of discretion. Empirical studies of discretion have been less prevalent, largely due to the difficulties in measurement. The next section provides a conceptualization of discretion and describes the deficiencies in properly testing theories based on this concept. We then offer a

[1] However, the line between ex ante and ex post controls is often blurred given they can be used in conjunction with one another. For instance, many ex ante procedures written in statutes often rely on ex post enforcement by Congress, the courts, interest groups, and the public.

new measure of discretion that overcomes earlier challenges, allowing for the empirical testing of these and other policymaking theories that have previously proven difficult to test.

2.2 Delegation, Constraints, and Discretion

Before moving to a discussion of measurement, we first seek to clarify exactly what we mean by "discretion." Clarification of this concept serves to aid in the evaluation of previous measurement schemes in addition to the one that we propose in this paper. In particular, we seek to delineate the relationships between delegation, constraints, and discretion. When we speak of the latter, we consider it to be a combination of the former two – i.e. discretion is delegation net of constraints (Epstein and O'Halloran 1999).

Delegations from Congress to the executive are grants of authority for the president or agencies to take actions in a particular area. For example, Congress may give a Cabinet secretary authority to issue regulations in a particular policy area or to carry out an enforcement regime. Why would Congress delegate power to agents that, in some cases, may have starkly different policy preferences? Political scientists have identified a number of different rationales for this behavior (see Krause (2010) for a thorough overview). The most prominent accounts have centered on informational asymmetries between Congress and the executive branch (e.g. Banks and Weingast 1992; Epstein and O'Halloran 1999; Niskanen 1971). In particular, Congress is assumed to lack expertise relative to the bureaucracy in understanding how policy *choices* map into real-world policy *outcomes*. Because of this, when the executive's preferences are sufficiently close to the legislature's, Congress will delegate decision-making authority to the executive branch in order to avoid utility losses associated with the uncertainty inherent in a less-informed congressional policy decision. However, as the executive's preferences diverge from the legislature's, the ideological loss from bureaucratic implementation (from the perspective of the legislature) will outweigh the uncertainty costs, leading Congress to make its own policy decision.

In addition to executive-legislative information asymmetries, scholars have also developed other strategic rationales for congressional delegation to the executive branch, resulting in a plethora of theoretical studies explaining this phenomenon. Many theorize on how decisions of delegation are influenced by factors such as ideology, uncertainty, costs, learning, and the presence of procedural constraints (Aranson, Gellhorn and Robinson 1982; Bawn 1995; Bendor and Meirowitz 2004; Fiorina 1982; 1986; Hirsch 2016; Ting 2003).

Additionally, a relatively new strand of literature emphasizes how grants of authority to the executive branch change the incentives of bureaucratic actors. In particular, some scholars focus on how policy authority may lead some bureaucrats to invest in expertise to make more informed decisions (e.g. Gailmard and Patty 2007; Cameron, de Figueiredo and Lewis N.d.). Alternatively, Congress may delegate to the bureaucracy in order to stimulate demand for its services when interest groups and constituents are dissatisfied with agency decisions (see Fiorina 1989, for an argument along these lines).

Contrary to claims that delegation amounts to congressional abdication (e.g. Lowi 1979), however, Congress is not powerless after giving the executive branch authority to implement policies. Indeed, Congress puts a number of constraints on the exercise of delegated authority. These constraints limit the scope of executive action in the implementation of vague congressional policies and can take a number of forms. First, they can refer to the specificity of a statute (e.g. Epstein and O'Halloran 1999; Huber and Shipan 2002). One classic example of statute specificity is a delegation to the bureaucracy to set the level of a policy. For instance, Congress could simply delegate unconstrained authority for the Environmental Protection Agency (EPA) to set an acceptable level of a chemical that firms can put into water as waste. Alternatively, Congress could constrain this delegation by stating that the EPA should set a level of acceptable pollution within a range of alternatives, e.g between 100 and 500 parts per million. Another form of statutory constraint that has received attention in recent years are limitations riders that are included in annual appropriations laws (see MacDonald 2010). Limitations riders proscribe the obligation of funds for certain purposes, hamstringing the ability of agencies to carry out some tasks, such as issuing regulations in a particular area (Schick 2008).

Beyond the actual language of the statute, Congress can also impose procedural constraints on agencies that provide information to Congress about agency actions and involve interest groups in agency decision-making. These procedural constraints include notice and comment periods for agency rulemaking, deadlines, open meetings, and required public reports (e.g Bawn 1995; Epstein and O'Halloran 1996; McCubbins and Schwartz 1984; McCubbins, Noll and Weingast 1987). These types of procedural constraints may serve to limit administrative action to a set of policies that congressional principals would find acceptable should the "fire alarm" be pulled by interest groups opposed to agency actions.

An important strand of theoretical work emphasizes the necessity of not only examining the initial decision to delegate, but also examining the degree of constraints placed on the executive when legislatures cedes authority (Calvert, McCubbins and Weingast 1989; Huber and Shipan 2000; McCubbins 1985; Spulber and Besanko 1992). More specifically, this concept of discretion combines both delegation and constraints. Fundamentally, discretion refers to the leeway that agencies have in implementing the policies that Congress prescribes. It takes into account both the magnitude of the delegation to an agent as well as the magnitude of the constraints that are placed on exercise of that delegated authority. This conceptualization of discretion closely matches that of Epstein and O'Halloran (1999). The implication of this is that knowing either the number of delegations or the number of constraints aimed at a particular agency action, in isolation to each other, is not sufficient to characterize the discretion that Congress has granted to an agency. For instance, Congress may lard a piece of legislation with reporting requirements, deadlines, and required rulemakings, but they may do so because they are also delegating large amounts of policymaking authority to an agency. By focusing solely on delegation or the accompanying constraints, our view of the overall latitude that an agency has in making policy will be obscured. Thus, delegations *and* constraints need to be taken into account in order to characterize discretion, and a reliable measure of the concept will incorporate both.

Several models have formalized the concept of discretion, producing many theoretical predictions of when legislatures yield more or less discretion to agencies based on factors such as ideological alignment, bureaucratic capacity, uncertainty, informational costs, insulation from president, expertise, policy area, ex post controls (Bendor and Meirowitz 2004; Calvert, McCubbins and Weingast 1989; Epstein and O'Halloran 1994; 1996; 1999; Gailmard 2002; Gailmard and Patty 2007; Huber and McCarty 2004; Huber and Shipan 2002; Martin 1997; McCubbins 1985; Spulber and Besanko 1992). Although the theoretical literature is rich, few studies have empirically tested these theories and the ones that do struggle to properly measure the concept of discretion. For instance, some studies that seek to test theories of discretion only measure constraints and do not account for the magnitude of a given delegation (Clinton et al. 2012; Huber and Shipan 2002; Huber, Shipan and Pfahler 2001). Additionally, other studies of discretion measure it dichotomously (Epstein and O'Halloran 1996; Volden 2002), even though it is continuous by nature. Thus, there is a fundamental mismatch between theory and empirics in the discretion literature. There is a scarcity of empirical studies to test the abundance of theoretical models and the few existing studies fail to properly measure the concept of discretion. The following section more thoroughly discusses problems in these empirical measures.

2.3 Previous Measures of Discretion

Given the importance of discretion to the study of Congress, the bureaucracy, and the outcomes of policy decisions, there have been several attempts to operationalize the concept in order to test theoretical predictions. Measuring discretionary grants from Congress to the executive is no easy task, however. In general, the literature has had difficulty generating generalizable measures of discretion that take into account both delegations and constraints. Issues of selection, what constitutes constraints or delegations, attribution of discretionary grants to specific agencies, and the sheer magnitude of the task plague attempts to empirically capture the discretion concept. Most studies have focused on a single agency or policy area(e.g. Spence 1999; Huber and Shipan 2002) or on either just delegation or constraints(e.g. Bawn 1997; Clinton et al. 2012; MacDonald, Franko et al. 2007; Volden 2002). We begin by reviewing three of the most notable measurement strategies: that of Epstein and O'Halloran (1999), measures based on the length of statutes (e.g. Huber and Shipan 2002; Clinton et al. 2012), and measures focused on particular tools of constraint, such as limitation riders (MacDonald 2010).

The most prominent theoretical and empirical work in the study of congressional grants of discretion is undoubtedly Epstein and O'Halloran's (1999) book, *Delegating Powers*. In addition to the development of a rich theory linking internal congressional politics and separation of powers politics to discretionary grants, the book also offers a novel empirical measure of discretion in order to test the model's predictions. The Epstein and O'Halloran (EO) measure is based primarily on codings of the Congressional Quarterly (CQ) summaries of legislation designated as significant by Mayhew (1991). They subsequently extended this list of significant legislation through the end of the 102nd Congress (1992). In all, there are 257 significant pieces of legislation in the EO dataset.

To create their measure, Epstein and O'Halloran (1999) first code each provision listed in the summary for whether it delegated power to another governmental actor. The percentage of provisions with delegations yields a "delegation ratio." The legislation summaries were also coded for whether or not they contained each of fourteen different constraints identified *ex ante* by the authors.[2] The authors then calculate a "constraint ratio" for each piece of legislation, which is defined as the number of *types* of constraints in a bill divided by 14 (the total number of possible constraints). This constraint ratio is then multiplied by the delegation ratio, yielding a measure of "relative constraint."

This measure has much to recommend. It pioneered the linking of empirical analysis to theories of legislative discretion. The EO operationalization takes into account *both* delegation and constraints in order to create a measure of discretion that truly reflected its role in formal theories. However, several aspects of the measure make it difficult to use in broader empirical analyses, which leave room for further development of discretion measures.

First, their focus on significant legislation potentially limits the generalizability of the measure as a tool for assessing discretion. By focusing on particular, potentially one-off pieces of legislation, making comparisons between them and across time becomes difficult. What types of

[2]These constraints are: appointment power limits, time limits, spending limits, legislative action required, executive action required, legislative veto, reporting requirements, consultation requirements, public hearings, appeals procedures, rule-making requirements, exemptions, compensations, and direct oversight.

unobservable and uncontrolled for factors may also be affecting levels of discretion? To the extent that different kinds of laws (with respect to substance, significance, and issue area) are passed under different ideological arrangements, this may cause concerns about the validity of results presented with such a measure. Additionally, focusing only on significant legislation does not allow researchers to examine when Congress reduces or increases an agency's discretion. An improvement on the EO measure would allow for repeated, over time observations within the same policy areas or agency. A measure with these attributes would allow for fairer comparisons based on within policy or agency variation.

Second, the primary focus on authorizing legislation as the unit of analysis may limit the number of theories that it is possible to test with the EO discretion measure. The actions that agencies and their employees take in response to changes in discretion are often important predictions that emerge from formal models of discretion. For instance, some classes of models lead to empirical hypotheses in which employees invest in expertise in response to increased discretion from Congress (see, for example, Gailmard and Patty 2007). It would be difficult to test such a prediction using the EO measure. Legislation, particularly significant legislation, typically delegates to multiple agencies. It is not clear whether the EO measure could be decomposed in a way that fully captures the differences in discretion in a piece of legislation for different agencies, which makes it difficult to test theories that tend to focus on one principal and one agent. The lack of comparability in the measure across time would further frustrate such an analysis.

Third, the EO measure may understate the magnitude of constraint that Congress includes in laws. The constraint ratio only includes indicators for the inclusion of any given type of constraint. Thus, a bill that contains one hundred instances of time limits, for instance, would be coded as exhibiting less constraint than a bill that contains one instance of a time limit and one instance of a reporting requirement. Because of this, the constraint measure may not always accurately reflect the true magnitude of included constraints and thus lead to measurement error in the discretion measure. Fourth, the reliance on CQ summaries raises some concerns about whether or not the measure accurately captures the levels of delegations and constraints in a bill. We examine this issue in more detail in Appendix B.

Another prominent measure of discretion used in the literature is the length of statutes. The assumption behind this operationalization of discretion is that statute specificity positively correlates with the length of a statute. That is, more words or more space devoted to a particular statute indicates that the legislature is giving instructions to the executive that limits its scope of action. This measure is employed most prominently by Huber and Shipan (2002). In particular, they focus on changes to state Medicaid laws during the years 1995-1996.[3] Clinton et al. (2012) use a similar measure in an examination of statutory discretion across many policy areas for the years 2007 and 2008. In that case, they do not distinguish among policy areas, leaving the possibility that confounders related to policy areas and discretion could lead to spurious correlations.

Perhaps the key drawback of page length measures is that they do not adequately account for delegation. The key assumption of these measure is all about constraint – longer statutes have more constraints. However, longer statutes may also have more delegations as well. Indeed, the results from Epstein and O'Halloran (1999) and our own results reported below suggest that delegation and constraints are actually significantly and positively correlated. Because word count or page length themselves tell us nothing about the level of delegation in a statute, their utility as a measure of *discretion* is limited.

Furthermore, examinations of the page length of statutes face the same problem as the EO measure in that it can be difficult to directly assign statutes to particular agencies, given that many statutes are directed at more than one agency. This is important for the analysis of hypotheses that examine outputs from agencies or employee behavior. Determining which agency is the primary one, or how discretion breaks down among the agencies referenced in a piece of legislation, is not straightforward and leaves much to researcher and coder discretion.

Finally, other attempts to measure discretion examine the use of one or more ex ante control mechanisms written in statutes such as limitation riders, policy analyses, reporting and consultation requirements, and periods of public comment (Drotning and Rothenberg 1999; MacDonald 2010;

[3]See McGrath (2013*b*); Huber, Shipan and Pfahler (2001) for other examples of studies relying on this particular measure.

Macdonald 2013; Potoski 1999; Potoski and Woods 2001; Spence 1999). However, similar to page length, these measures mostly capture instances of constraints and fail to properly account for grants of delegation. Given the importance of both concepts, these attempts are also problematic measures of discretion.

Overall, then, the existing measures of discretion have significantly increased our empirical understanding of the strategic dynamics of authority grants from the legislative to the executive branch. There are several features of these measures, however, that could be improved. First, repeated observations for agencies or well-defined policy areas would allow for more comparability of discretionary grants over time and mitigate selection issues that plague measures based on authorizing legislation. Second, a clear conception of what constitutes a delegation and constraint ought to be central to the overall measure. Finally, a measure of discretion should not only focus on increases in discretion but should also reflect decreases in discretion to the executive. Neither the EO nor the page length measures is able to detect negative changes in discretion. We believe the measure we present in the next section includes these three desiderata.

3 A New Measure of Discretion

In this section, we introduce our proposed measure of discretion. Unlike previous measures, our unit of analysis is not individual statutes. Rather, our measure is based upon congressional outputs during the annual appropriations process. By relying on appropriations, rather than the authorization process used in previous measures, we can circumvent challenges more broadly inherent to empirical studies of separation of powers politics, including selection bias, attributing discretionary grants to particular agencies, as well as comparability across time and issue areas (Canes-Wrone 2005; Howell and Jackman 2011).

In particular, we operationalize delegation as the amount of new budget authority that is appropriated by the chamber to a given agency in a given year. We conceive of constraints as the specificity of the committee reports (as measured by their length) that accompany the appropriation. From this, we are able to obtain a measure of general discretion that is granted to every agency from Congress in every year of our dataset. This approach also allows us to observe when discretion increases or decreases, and because we are observing the same congressional action each year, i.e. appropriations, these comparisons are more appropriate than a focus on potentially temporary, irregular, and program-specific pieces of legislation.

We argue that new budget authority is an appropriate measure of delegation to agencies. Agencies require budget authority in order to enter into obligations throughout the year and thus carry out their missions. The size of the budget is clearly linked to the outputs and production of agencies and is a key concern of politicians that seek to control agency actions (see, for example, Bendor and Moe 1985; Calvert, McCubbins and Weingast 1989; Kiewit and McCubbins 1991; McCarty 2004; Potter and Shipan 2013; Niskanen 1974; Schick 2008; Ting 2001). Without new budget or obligational authority, agencies are unable to pay and hire employees, enter into new contracts, engage in enforcement activities, or otherwise operate.

Because of the importance of appropriations for agency functioning, however, Congress does not simply appropriate without instructions (MacDonald 2010). While one approach would be to examine appropriations statutes to look for constraints (such as limitation riders), we choose to look at the appropriations committee reports, which contain significant instructions about how agencies are to spend their funds. As Schick (2008) writes, "According to long-standing practice, detailed guidance on how funds are to be spent appears in appropriations committee reports rather than in the body of appropriations acts." Even though these reports are not "law," in the sense that they are not statutes, they are nonetheless treated as such by agencies due to the repeated interactions between agencies and the appropriations subcommittees. If agencies act against committee reports, they may face retribution from the committee in the future such as in the form of more stringent constraints directly in the appropriations statute, reduced appropriations for priorities, or costly oversight in the future Schick (2008).

Appendix A contains examples of report language that demonstrate the ways in which Congress uses them to control agency activities. These reports contain clear instructions to agencies about how budget authority should be obligated as well as instructions about the submission of information to the subcommittee that would allow it to oversee agency activities. We argue that the length of these reports is positively correlated to the level of constraint that the subcommittee wishes to impose upon the agency given that it is accompanied by more instructions.

Thus, our measure of discretion incorporates both delegation (new budget authority in millions of dollars) and constraint (the length of the committee report for a particular agency).[4] We simply divide the former by the latter. The measure is then the amount of new budget authority per page in the appropriations committee report. Therefore, the discretion granted to agency i in year t is given by

$$\text{Discretion}_{it} = \frac{\text{New Budget Authority}_{it}}{\text{Pages}_{it}}$$

We collected this data for each agency for each fiscal year from 1976-2013 from appropriations committee reports accessed through the Library of Congress maintained on line by Thomas and Congressional Proquest. This time frame covers the appropriations bills passed out of committee from the Ford administration through the present. The data was coded by the authors and research assistants. Inter-coder reliability checks suggested a high correlation between coders' determination of discretion, $\rho = 0.98$.[5]

Note that the delegation measure includes only yearly obligational authority that is in the jurisdiction of the appropriations committee. This means that most types of direct spending dictated in authorizing legislation are excluded from the measure (e.g. Medicaid or Medicare). This is an important limitation of our measure, given that direct spending has made up an increasing portion of agency outlays over time. By focusing on non-mandatory (i.e. discretionary) spending, our measure captures the areas of obligations that agencies have substantial authority to direct and how Congress seeks to delimit agency actions in that regard. Exclusion of agencies where significant portions of their outlays are direct spending (such as the Social Security Administration or the Department of Health and Human Services) from analyses below does not have any substantive

[4]Note that all dollar amounts are in 2009 dollars and we measure page length to the nearest quarter of a page.

[5]What variation in coding did exist stemmed from different judgments about page length, e.g. if the report went onto one-fourth or one-third of a page.

effects on the results. However, it is nonetheless important to note that our characterization of discretion does not take into account direct spending.

Another issue that arises with our measure is how to treat agencies that receive funding outside of the appropriations process. For instance, the Federal Communications Commissions spends funds that are generated from the revenues of the spectrum auctions that they run. For agencies that collect user fees or off-setting collections to fund their activities, we record the obligation limits that Congress imposes in the appropriations process as their "appropriation" in a given year. By restricting the levels of money that agencies can spend, functionally Congress still retains the power of the purse over these agencies, though technically that power manifests through different sources and statutory constructions. It is possible, however, that these agencies receive significantly more or less leeway based on their funding structure. The use of agency fixed effects should also help to allay concerns about the role of mandatory spending and the consequences of its exclusion from our measure as well as potential irregularities that might arise from agencies that use offsetting collections to finance some of their activities. We now examine this measure in more detail and validate it with a test of the ally principle.

We argue that this measure of discretion has numerous advantages over existing ones in order to test theories of discretion. First, unlike measures based on statute page lengths or procedural controls, our measure incorporates both central conceptual aspects of discretion – delegation and constraints. Second, in contrast to measures that are based on authorizing legislation, by focusing on the annual appropriations process, we are able to create a measure of discretion that is clearly comparable over time. Furthermore, relative to authorization-based measures, the mandatory, yearly nature of appropriations negates selection issues about when specific congresses may pass particular types of legislation with particular levels of discretion.

The focus on the appropriations process (as opposed to authorizations) is also of substantive value (Kiewit and McCubbins 1991). The appropriations process has long been recognized as a central feature of congressional power. As such, this process serves as a constant source of conflict between the executive and legislature (Canes-Wrone 2005) in addition to more active monitoring of agency activities from these congressional committees (Aberbach 1990). While agencies and programs can go years or even decades without re-authorization, appropriations must be acted upon every year. During periods of extreme polarization, when the passage of authorization bills is difficult, the appropriations process has become one of the primary ways through which Congress is able to limit or prevent agencies from taking particular actions. The recent attempts to limit bureaucratic implementation of President Obama's immigration executive orders through the appropriations process is just one example of this shift in the locus of policymaking in Congress.

Additionally, this process allows for a more clear-cut measure of discretion compared to previous attempts (Bendor and Moe 1985; Howell and Jackman 2011). In this case, we can confidently say that greater appropriations correspond to more delegation given to agencies, just one component of our measure. Further, Kiewit and McCubbins (1991) describe appropriations decisions as "straightforward" and the "the clearest statements of policy that exist" (p. 3). Because of this, they argue that annual appropriations serve as an appealing measure of delegation to the executive, with more appropriations corresponding to more authority. While they recognize that Congress can constrain this authority, particularly in subcommittee reports, they do not incorporate this into their measure.

With the shift from large, complex statutes to the appropriations process, our measure is able to more easily evaluate theories that are centered on the interactions between one principal and one agent. While authorizing statutes delegate powers to many different agencies in ways that often make it difficult to disentangle discretion for one agency to another, appropriations bills and reports much more clearly delineate appropriations and constraints for specific agencies. This makes it much easier to test, for instance, a theory about discretion and human capital acquisition in a given agency.

Finally, our measure allows us to observe the proposed discretion levels for both the House and the Senate in a given year. This yields a characterization of the discretionary attitude of each chamber toward each agency in every year. Previous empirical tests of discretion usually aggregate the preferences of both chambers into one single body, despite the fact that they have separate preferences and relations with agencies. Yet, our measure would allow for an easier evaluation of theories that center on multiple legislative principals. At the same time, however, it is flexible enough to yield a single measure of discretion by taking into account the length of both reports in a given year and actual appropriated amounts.

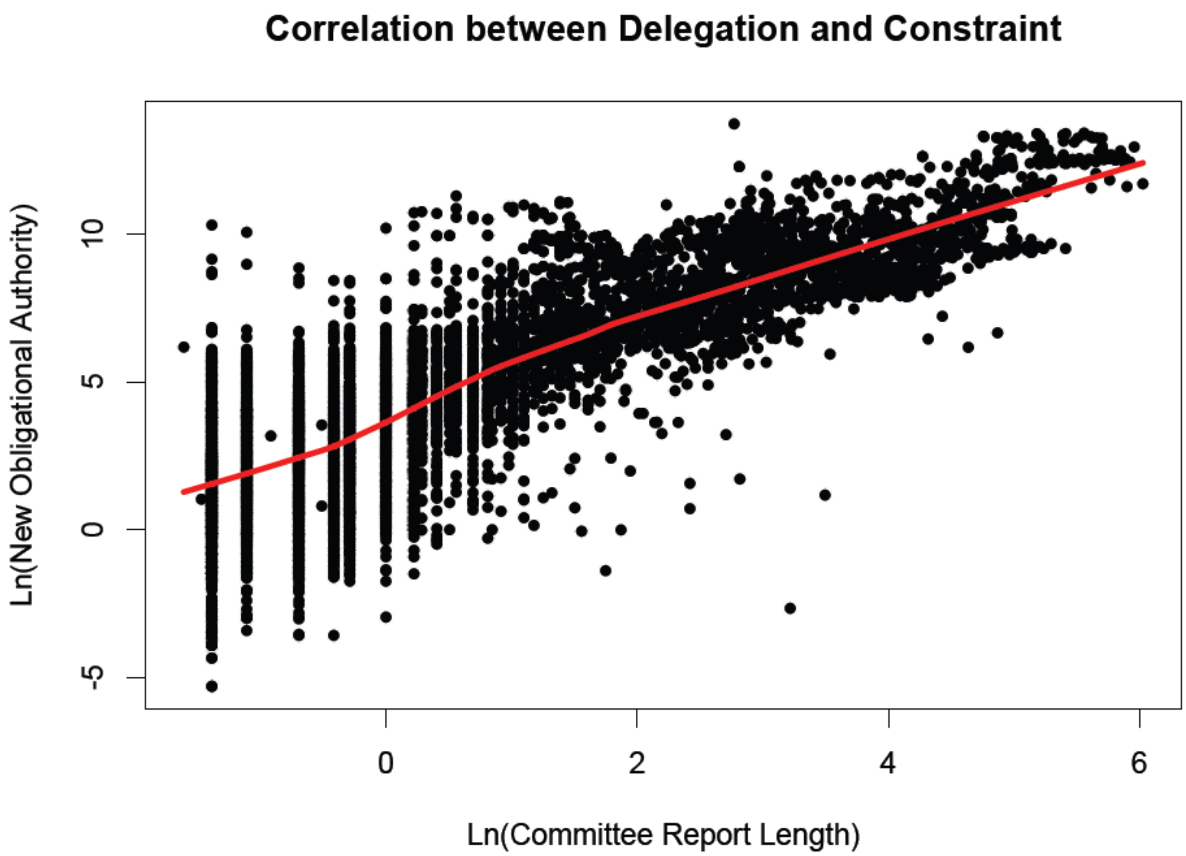

Figure 1: Relationship Between Appropriations and Report Page Length

We now turn to some basic descriptive data on our measure of discretion. The scatterplot in Figure 1 displays the relationship between delegations (new budget authority) and constraints (report page length for an agency).[6] We find that there is a significant positive correlation between the two. The red line in the figure is a lowess smoother, which highlights the clear positive relation-

[6]Note that in the analyses presented below, we use the natural logarithm of the discretion measure as the dependent variable in our analyses. Inspection of residuals from these models indicated that they were strongly positively skewed when we used the unlogged dependent variable. Because of this we also present plots and summaries based on the natural logarithm of the measure. In the text, we provide unlogged interpretations to aid understanding of the measure.

ship between the two variables. In particular, a one percent increase in the amount appropriated is associated with a 0.4 percent increase in report length ($p < 0.001$). This is largely in line with the results reported in Epstein and O'Halloran (1999) as well. This correlation between delegation and constraint also serves to highlight the shortcomings of page length alone as a measure of discretion. While lengthier reports may suggest greater constraint, they also are associated with larger delegations of authority as well. Thus, a measure of discretion must account for both delegations and constraints.

Figure 2 displays the overall distribution of discretion across agencies. The average level of discretion in the sample is 4.895, which corresponds to about \$133.6 million of budget authority per report page.

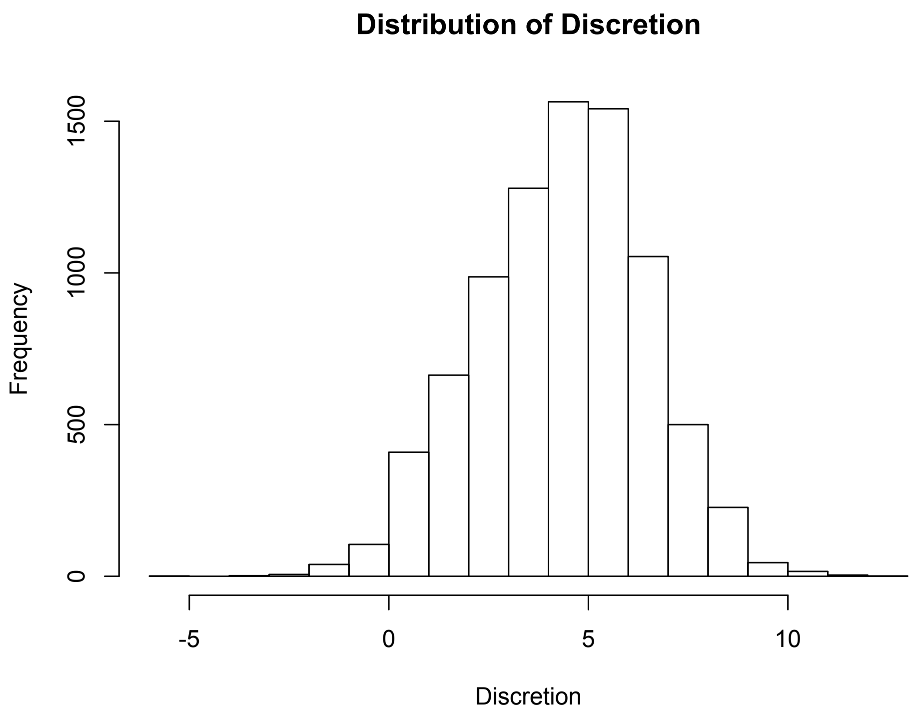

Figure 2: This histogram displays the distribution of discretion. The average level of discretion is \$144 million of budget authority per page.

In addition to the overall distribution of discretion, we can also characterize discretionary levels for particular agencies, which is difficult to do using the measures of discretion that are standard in the literature. In Figure 3, we plot the mean level of discretion for each of the Cabinet agencies in our dataset as well as 95% confidence intervals for the means. There is substantial variation in the mean levels of discretion in each of these departments. The least average discretion is given to the Department of Transportation, which receives $130.6 million per page. The Department of Veterans Affairs received the most discretion, on average during this period, with $3.6 billion allocated per report page. This variation suggests the importance of controlling for issue areas and agencies in empirical analyses. This is much more straightforward to accomplish with this proposed measure of discretion relative to existing ones for reasons articulated above.

4 Validating the Measure: The Ally Principle

We now turn our attention to an empirical test designed to establish the validity of our measure. One theoretical regularity that has emerged in the discretion literature is the "ally principle." The empirical hypothesis is that Congress will give more discretion to the executive branch during periods of unified government than during periods of divided government. The logic behind this hypothesis is that Congress will suffer fewer agency costs from granting large levels of discretion when the executive is relatively ideologically aligned with it because the executive will try to implement a policy with an outcome closest to its ideal point (see Bendor, Glazer and Hammond 2001; Bendor and Meirowitz 2004, for an extended discussion). We note that in some strategic situations, the ally principle may not obtain (see, for example, Huber and McCarty 2004). Nonetheless, we test the hypothesis with the understanding that if circumstances exist in our dataset where the ally principle does not hold, it should only bias against us finding any statistically or substantively significant results. Following Epstein and O'Halloran (1999), we operationalize disagreement (*Chamber-President Disagreement*) in terms of whether or not the chamber issuing the report is controlled by the party of the president.[7] This variable takes the value of "1" if the chamber is

[7]Note that we focus on chamber disagreement rather than divided government because in each year we have an observation for each agency for each chamber, and there are occasional in our dataset where partisan control of the House of Representatives and the Senate differs (e.g. the 112th Congress). The measure could be easily adapted to combine the House and Senate measures of discretion in a given year by averaging, for instance.

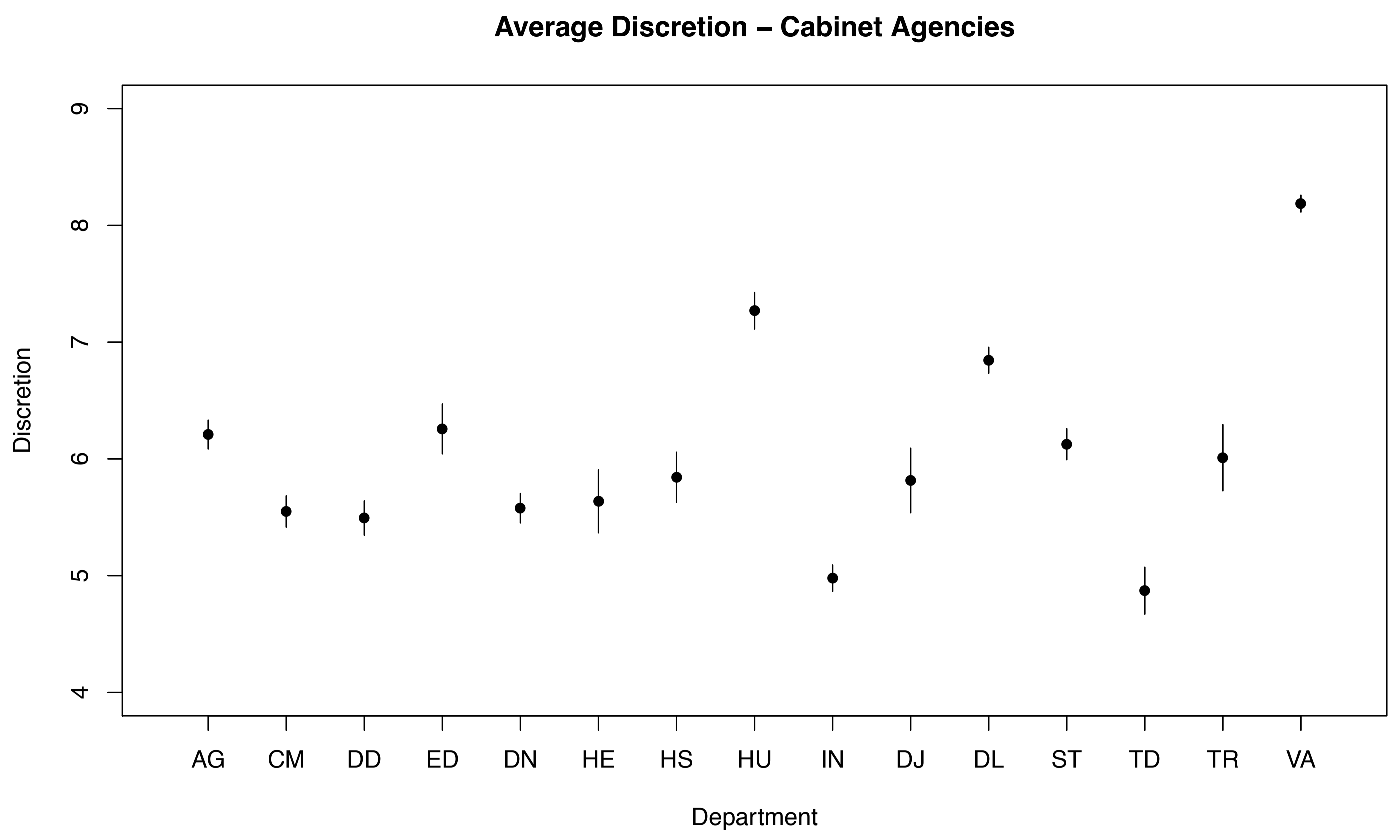

Figure 3: This figure plots the mean level of discretion for Cabinet agencies in our dataset as well 95% confidence intervals. There is substantial variation in average discretion across agencies, with the Department of Veterans Affairs receiving the most discretion and the Department of Transportation receiving the least. Agency codes: AG = Department of Agriculture; CM = Department of Commerce; DD = Department of Defense; ED = Department of Education; DN = Department of Energy; HE = Department of Health and Human Services; HS = Homeland Security; HU = Department of Housing and Urban Development; IN = Department of the Interior; DJ = Department of Justice; DL = Department of Labor; ST = Department of State; TD = Department of Transportation; TR = Department of the Treasury; VA = Department of Veterans Affairs.

controlled by the party opposed to the president and "0" otherwise.

Table 1 displays the results of six models assessing the ally principle using our measure of discretion. Model 1 is a simple bivariate regression of discretion onto the disagreement measure. Model 2 adds in agency fixed effects to control for unobserved, time-constant features of agencies that may also influence discretion. For similar reasons, Model 3 includes fixed effects for every subcommittee in each chamber. In addition to these fixed effects, Model 4 also controls for a number of other factors that could possibly influence grants of discretion including the state of the economy,[8] the beginning of a new presidential administration,[9] and the president's public approval rating.[10] Across all four models, we find strong support for the ally principle. In other words, Congress appears to give more discretion to agencies when the president is aligned with the chamber majority. Specifically, we find that a change from agreement between the chamber and the president to disagreement is associated with a 12 to 17% decrease in the amount of discretion afforded to an agency, depending on the specification. Thus, we find support with our measure for this existing theoretical and empirical regularity.

While the first four models find strong support for the ally principle using an indicator variable for president-chamber partisan disagreement, we use alternative measures of this alignment in the last two columns of Table 1. Following Epstein and O'Halloran (1999), we use the percentage of seats held by the opposing party of the president (*Percent Opposing Party*) as an alternative measure in Model 5. However, unlike many previous studies, we are able to disaggregate this measure by each chamber of Congress, rather than average it across the House and the Senate. Additionally, we recognize that these commonly-used partisan-based measures may not best represent the preferences of political actors. Instead, we use ideology as a basis for preference disagreement in the final model and thus, *Chamber-President Distance* is measured as the ideological distance between the president and the chamber median, using DW-NOMINATE scores.

[8]This is operationalized using the annual unemployment rate and inflation rate, collected by the Bureau of Labor Statistics.

[9]This is coded as 1 if it is the first year of a new president, following an administration from an opposing party, and 0 otherwise.

[10]The president's public approval rating is measured by Gallup Poll, aggregated by year.

Table 1: Ally Principle

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Chamber-President Disagreement	-0.169***	-0.117***	-0.129***	-0.125***		
	(0.052)	(0.036)	(0.038)	(0.039)		
Percent Opposing Party					-0.002***	
					(0.001)	
Chamber-President Distance						-0.180**
						(0.063)
Inflation				0.014	0.014	0.015
				(0.012)	(0.012)	(0.012)
Unemployment				-0.001	0.003	-0.006
				(0.014)	(0.014)	(0.015)
Administration Change				0.000	0.026	0.025
				(0.039)	(0.035)	(0.035)
War				0.035	0.060	0.063
				(0.056)	(0.055)	(0.055)
Public Approval				0.003**	0.002	0.003*
				(0.001)	(0.001)	(0.001)
Constant	4.441***	1.566***	1.372*	1.089	1.202	1.138
	(0.159)	(0.019)	(0.767)	(0.808)	(0.812)	(0.813)
Agency Fixed Effects		✓	✓	✓	✓	✓
Chamber-Subcommittee Fixed Effects			✓	✓	✓	✓
N	8,226	8,226	8,223	8,223	8,223	8,223
R-Squared	0.001	0.780	0.813	0.813	0.813	0.813

Coefficients reported from OLS regression model, with robust standard errors clustered by agency in parentheses. Significance codes: *p < 0.10, **p < 0.05, ***p < 0.01, two-tailed tests.

With both of these alternative measures, we still find strong support for the ally principle. Specifically, a standard deviation increase in the number of the seats held by the president's political foes, corresponds to a 4% decrease in discretion granted to the executive branch. Similarly, discretion decreases by 18% for every one standard deviation increase in the president's ideological distance to the chamber median. In general, the control variables do not have a significant impact on discretion.[11] However, we do find evidence that subcommittees grant greater discretion to the executive branch when the president maintains high public approval. This finding is consistent with arguments linking presidential approval and political capital to his success with Congress (Beckmann 2010; Rivers and Rose 1985). Yet, even when controlling for these other political factors, we consistently find a negative and significant effect of president-congress disagreement on discretion. Overall, these results offer strong validation for the measure of discretion that we propose here.

5 Application: Committee Preferences and Discretion

Previous studies of delegation commonly use a principal-agent framework between Congress and the executive branch to understand delegation decisions. Particularly, these studies mostly focus on the preferences of the entire chamber in relation to agencies. However, several scholars argue that congressional committees and subcommittees are more important sources of power and constraints to agencies under their jurisdiction than Congress at large given their use of budgets, oversight, and appointments as control mechanisms over these agencies (Aberbach 1990; Grier 1991; Weingast 1984; Weingast and Moran 1982; 1983). Indeed, several studies have found evidence that agencies are responsive to the ideological preferences of their overseeing committees (Faith, Leavens and Tollison 1982; Grier 1991; MacDonald 2007; Shipan 2004; Weingast 1984; Weingast and Moran 1982; 1983; Wood and Waterman 1994). Given that most congressional "punishments" of agencies come directly from committees (and not necessarily through statutory

[11] Note that the results using these two alternative measures still hold with the exclusion of the control variables.

action), it makes sense to consider them as principals in studies of discretion, though to be sure they may reflect the preferences of the overall chamber in many instances.

Thus, when considering the role of Congress in controlling agencies, the literature seems to support the notion that the overseeing committee should in some cases be the appropriate congressional principal to consider rather than the entire chamber. While this more precise principal-agent conception is more prevalent in studies of ex post controls such as oversight, delegation theories and empirical studies tend to focus primarily on the aggregate preferences of Congress (either as one actor or the chamber median) as the principal rather than the relevant committees and subcommittees. One reason for this broader empirical focus stems from the methodological problems this literature faces when trying to obtain more fine-grained measures of discretion on the subcommittee and agency level, as discussed in the previous sections. Our new measure of discretion bypasses these methodological difficulties by allowing us to easily match the discretion granted from individual subcommittees to the corresponding agencies under their jurisdiction. Thus, we can offer a better test of theories that focus on committee principals by clearly linking the identified principal (subcommittees) and agent (agencies), largely untested, rather than using proxies for this relationship (president-Congress).

To demonstrate the flexibility of our measure in doing this, Table 2 examines this relationship using various measures of subcommittee and agency preferences. To measure subcommittee preferences, we obtain the composition of each House and Senate Appropriations subcommittee over time and the corresponding ideal point for each member. We then calculate the median ideal point of each subcommittee as well as the ideal point for each subcommittee chair. We calculate the absolute distance using each of these subcommittee measures with two alternative measures of agency preferences. Models 1 and 2 use the president's ideal point (DW-NOMINATE) as a proxy for agency preferences, given his ability to control executive branch behavior, most notably through politicization and centralization. Models 3 and 4 use the Chen and Johnson estimates to directly measure agency preferences. These scores are scaled on to DW-NOMINATE and thus serve as an appealing measuring when comparing agency preferences to congressional preferences. These alternative measures yields four different measures of subcommittee-agency distance, as represented across each column of Table 2.

Regardless of the measure, we find lower levels of discretion granted from subcommittees to an ideologically distant executive. In particular, a standard deviation increase in the president's ideological distance to both the subcommittee median and chair significantly decreases the amount of discretion that subcommittee gives to the executive branch by 7%. The individual agency's distance to the median of their overseeing subcommittee also negatively impacts discretion, although this effect is not statistically significant. However, a standard deviation increase in an agency's distance to the chair significantly decreases discretion by 6%. Although we find conflicting effects of inflation, we once again find a positive relationship between presidential approval and discretion. Additionally, we find that the executive branch receives greater discretion during times of war, consistent with previous literature arguing that the president receives greater deference from various political actors during these critical times (e.g. Wildavsky 1966; Canes-Wrone, Howell and Lewis 2008).

Overall, this empirical analysis further validates the ally principle and offers a more precise test by using the ideological distance between the subcommittee and agency preferences. Although we demonstrate that this preference alignment matters when explaining changes in discretion, we explore the possibility that preference heterogeneity of the subcommittees is also an important determinant.

While previous work suggests that preference heterogeneity at the chamber and subcommittee levels matter for determining levels of discretion (e.g. Epstein and O'Halloran 1999; Krause 2003), this relationship has not been explored at the committee level, where member preferences can be even more important to explaining agency discretion. In particular, previous work suggests that heterogeneity of congressional subcommittees should lead to greater levels of discretion given to agencies for two reasons. First, when members have conflicting preferences it may be difficult for them to act themselves. Thus, they may choose to rely more on agencies to change policy, resulting in greater discretion. Second, ideological conflict among subcommittee members may lower their

Table 2: Subcommittee-Executive Alignment

Variable	Model 1	Model 2	Model 3	Model 4
Subcommittee Median-President Distance	-0.254***			
	(0.060)			
Subcommittee Chair-President Distance		-0.416***		
		(0.107)		
Subcommittee Median-Agency Distance			-0.074	
			(0.148)	
Subcommittee Chair-Agency Distance				-0.418*
				(0.248)
Inflation	0.017	0.018	-0.047*	0.045*
	(0.012)	(0.012)	(0.025)	(0.025))
Unemployment	-0.011	-0.007	-0.002	-0.002
	(0.015)	(0.015)	(0.023)	(0.023)
Administration Change	-0.006	0.008	-0.034	-0.045
	(0.040)	(0.038)	(0.089)	(0.075)
War	0.045	0.072	0.200*	0.186*
	(0.051)	(0.054)	(0.104)	(0.107)
Public Approval	0.003**	0.003*	0.006	0.006*
	(0.001)	(0.001)	(0.004)	(0.003)
Constant	1.308	1.384	6.285**	6.301**
	(0.853)	(0.860)	(0.342)	(0.339)
Agency Fixed Effects	✓	✓	✓	✓
Chamber-Subcommittee Fixed Effects	✓	✓	✓	✓
N	7,425	7,425	1,957	1,957
R-Squared	0.813	0.813	0.720	0.721

Coefficients reported from OLS regression model, with robust standard errors clustered by agency in parentheses. Significance codes: *p < 0.10, **p < 0.05, ***p < 0.01, two-tailed tests.

capacity to constrain the executive branch, leading to higher levels of discretion afforded to it (Krause 2003). Particularly, it may be more difficult for subcommittees to write constraining committee reports which could result in greater leeway for the executive (e.g. Bolton and Thrower N.d.). However, at the same time, greater heterogeneity on a committee may give agencies less clear indications about the committee's most-preferred policy (Krause 2003), which may lead the committee to focus on ex ante control, thereby reducing discretion.

Relatedly, other policymaking literature suggests that the executive has an easier time bypassing legislative counterparts when Congress is internally fragmented (Howell 2003; 2005) and when it is low in capacity (Bolton and Thrower N.d.) given the difficulties it faces in taking action against the executive branch. Thus, internal conflicts within Congress lead to situations in which it has a more difficult time controlling executive agencies, thus affording them greater discretion. We test this specifically with preference heterogeneity at the subcommittee level, which exerts a greater control over agencies under their jurisdiction. Given these arguments, we would expect to find that greater subcommittee heterogeneity will lead to greater levels of discretion given to corresponding agencies. Relatedly, Epstein and O'Halloran (1999) argue that inefficiencies within the legislature will lead to more discretion given that in-house production of policy and delegation are substitutable. This lends further credence to the idea that heterogeneity within a subcommittee might be associated with greater discretionary grants, and it also suggests that when there is greater ideological distance between the committee and the floor medians, we should also see higher levels of discretion. Distance between the floor and the committee suggests that there is significantly more ideological friction in a given legislative process, which according to their model should lead to greater discretion.

Table 3 explores this conjecture using three different measures of heterogeneity. First, Model 1 uses the standard deviation of the ideal points of the entire membership for each subcommittee in both chambers (*Subcommittee Heterogeneity*. Following Epstein and O'Halloran (1999), we test the notion that the preferences of the majority party are more important in determining discretion. However, we test this at the subcommittee level rather than the chamber level given the impor-

Table 3: Subcommittee Heterogeneity

Variable	Model 1	Model 2	Model 3
Subcommittee Heterogeneity	0.401		
	(0.342)		
Subcommittee Majority Party Heterogeneity		0.944**	
		(0.396)	
Subcommittee-Floor Distance			0.404***
			(0.108)
Chamber-President Disagreement	-0.144***	-0.140***	-0.148***
	(0.041)	(0.040)	(0.041)
Inflation	0.019*	0.012	-0.018
	(0.011)	(0.012)	(0.013)
Unemployment	-0.005	-0.014	-0.002
	(0.012)	(0.014)	(0.014)
Administration Change	-0.005	0.009	0.004
	(0.042)	(0.042)	(0.043)
War	-0.017	0.017	0.015
	(0.047)	(0.052)	(0.053)
Public Approval	0.004***	0.003**	0.003**
	(0.001)	(0.001)	(0.001)
Constant	1.069	1.212	1.200
	(0.806)	(0.842)	(0.842)
Agency Fixed Effects	✓	✓	✓
Chamber-Subcommittee Fixed Effects	✓	✓	✓
N	7,425	7,425	1,957
R-Squared	0.813	0.813	0.813

Coefficients reported from OLS regression model, with robust standard errors clustered by agency in parentheses. Significance codes: *p < 0.10, **p < 0.05, ***p < 0.01, two-tailed tests.

tance of committees as agency overseers. Thus, *Subcommittee Majority Party Heterogeneity* is measured by using the standard deviation of members' ideal points belonging to the majority party of each subcommittee in Model 2. Finally, we conceptualize internal fragmentation as being the ideological distance between the chamber median and subcommittee median (*Subcommittee-Floor Distance*. Following Epstein and O'Halloran (1999), we expect to find that greater disagreement between the chamber and the subcommittee will correspond to lower levels of discretion.

The results largely conform to the expectations described above. Model 1 shows that subcommittee heterogeneity corresponds to higher levels of discretion granted to the executive branch. Though this effect is in the expected direction, it fails to reach standard levels of statistical significance. However, we do find a positive and significant effect of heterogeneity on discretion, when examining the preferences of the majority party controlling the subcommittee. In particular, with every one standard deviation increase in the diversity of majority party preferences on each subcommittee, the amount of discretion given from that subcommittee to the executive increases by 5%. Similarly, discretion increases by 4% for every standard deviation increase in subcommittee-floor distance. Thus, we show that internal conflict within a subcommittee and with the floor affords agencies the opportunity to obtain greater discretion from their fragmented congressional counterparts. Notably, the results hold even when including *Chamber-President Disagreement*, which itself maintains its negative and significant effect. This gives us further confidence in the robustness of our results.

6 Discussion and Conclusion

Discretion is among the most important concepts in explaining separation of powers politics and executive policymaking. Executive activities ranging from enforcement to regulation to even so-called "unilateral" actions require discretionary grants from Congress. Because of its centrality in separation of powers politics, a rich theoretical literature has grown around the concept of discretion, yielding a number of interesting, sometimes conflicting, empirical hypotheses. The empirical literature on discretion has grown far more slowly relative to the theoretical one because of the difficulties inherent in measuring discretion. In order to more fully understand these topics, it is vitally necessary to have reliable measures of discretion that can be used to evaluate theories that incorporate it.

To bridge this gap between theory and empirical testing, we introduced a new measure of discretion that is based upon the annual appropriations process. Relative to other measures of discretion, the one proposed here incorporates repeated observations for agencies, accounts for both increases and decreases in annual discretion, and includes both delegations and constraints. As a validation of our measure, we used it to test whether or not the well-known theoretical ally principle result holds and find strong support. When the party controlling a chamber of Congress is different from the president's party, agencies receive significantly less discretion than when the parties are the same. Further, the results hold when using a variety of different measures of legislative-executive ideological disagreement. This suggests that our measure replicates a regular theoretical prediction and empirical finding found in previous delegation studies, suggesting its strong connection to the discretion concept as well as its applicability to other scenarios.

We then turned our attention to an existing theoretical concept in the literature – the role of ideological heterogeneity in the legislature in conditioning discretionary grants to the executive branch. Existing studies suggest that ideological heterogeneity within the legislature can lead to either more or less discretion. We use our measure and a number of different operationalizations of legislative ideological heterogeneity to evaluate these conjectures. We find that there is a significant and positive relationship between ideological heterogeneity and the amount of discretion given to executive branch actors. This empirical tests provides just one example of the ways in which our measure might be applied to evaluate theoretical arguments in existing and future work.

Overall, the measure of discretion we have proposed in this paper has strong validity and can be applied to a variety of questions in the study of American politics. Future research can readily incorporate this measure into investigations of how bureaucrats respond to increases and decreases in discretion and how presidential unilateralism in particular policy areas is conditioned by the levels of discretion, to name just two examples. This measure can also be used to test broader theories of separation of powers and policymaking that rely on grants of discretion, such as presidential policymaking, executive influence in Congress, and the president's war time powers.

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A Appropriations Committee Report Example

The reports by appropriations committees that accompany bills to the House and Senate floors are important documents, treated by agencies as near-binding law. They instruct agencies on how the committee expects funds to be expended, put certain restrictions on their use for certain reasons, outline requirements for agencies in the coming fiscal year, and provide justifications for particular funding decisions (Fenno 1966; Kiewit and McCubbins 1991; Schick 2008).

Common types of constraints included in committee reports (based on our reading) include:

- Reporting requirements: specify contents of reports on status of programs and spending
- Notification of spending
- Deadlines
- Directions on how to spend money
- Require justification from the agency for allocating funds for a particular purpose
- Gives instructions as to the particular focus a program should have when obligating funds
- Limitations on expenditures
- Requirements to make certain policy documents available to the public
- Requests for guidelines and certain procedures for implementation and enforcement
- Require the continuation of certain programs
- Requirements for the specification of duties for certain offices
- Requirement to submit a spending plan before obligation of in the next year's budget justification
- Provides a mission or objective for a particular program or office as the committee understands it

- Requirements to conduct studies analyzing program and spending effects.
- Require certain staffing levels through a full-time equivalent floor, ceiling, or target
- Instructions for the inclusion of certain information in next year's budget request
- Goals the agency should pursue for a particular program
- Require the agencies to develop and report plans to reduce costs in given program areas
- Specifies purpose of particular projects the committee wants to fund (most common in Energy and Water bills)
- Stress the importance of particular programmatic goals relative to others

Below, we reproduce an except from House Report 112-589 describing appropriations for the Environmental Protection Agency (EPA). The report contains detailed information about how the appropriated funds are to be spent and specific information that the subcommittee requires to oversee the agency's activities. We argue that this type of language, which is typical of appropriations committee reports, can plausibly be considered constraints on agency language and that the length of these reports is positively correlated to the amount of constraint the committee intends to place on the agency.

Hydraulic Fracturing- In 2010, the Committee urged EPA to research whether there is a relationship between hydraulic fracturing and drinking water. The Committee understands EPA has incorporated a review of environmental justice impacts into this study, which the Committee finds to be outside the scope of the 2010 language and an inappropriate use of funds. No funds have been provided in the bill to research environmental justice impacts related to hydraulic fracturing, and EPA shall discontinue the use of any resources that may have been diverted to this subactivity. The Committee directs the Agency to release the study's findings with respect to whether there is a relationship between hydraulic fracturing and drinking water following appropriate public comment as directed in House Report 112-151 and peer review.

Integrated Risk Information System (IRIS).–The Committee strongly supports the goals of EPA's IRIS Program and believes a transparent, robust, and reproducible approach for synthesizing scientific information is an important element of influential Federal scientific assessment programs. However, it has become increasingly clear that fundamental improvements in the policies and practices of the IRIS program are necessary to ensure that the assessments developed are firmly based on up-to-date scientific knowledge, meet the highest of standards of scientific inquiry, and are evaluated in accordance with acceptable scientific approaches. Therefore, building from the directives in the fiscal year 2012 Interior, Environment, and Related Agencies conference report, the Committee directs the Agency to take the following actions:

(a) For draft and final IRIS assessments released in fiscal year 2013, the Agency shall include documentation describing how the Chapter 7 recommendations of the National Academy of Sciences (NAS) have been implemented or addressed, including an explanation for why certain recommendations were not incorporated.

(b) The Agency shall issue a progress report to the House and Senate Committees on Appropriations and relevant Congressional authorizing committees no later than March 1, 2013, describing the IRIS Program's implementation of the National Research Council's Chapter 7 recommendations.

(c) Accordingly, the Committee directs EPA to re-evaluate, using acrylonitrile and other relevant assessments as case studies, the methods previously used to evaluate and interpret the body of available scientific data, including the weight-of-evidence approach, and include in the report called for in section (b) a chapter on whether there are scientifically more appropriate methods to assess, synthesize and draw conclusions regarding likely human health effects associated with likely exposures to the substances.

B Reliability of CQ Summaries

In this appendix we review the issue of the reliability of CQ summaries in greater detail. These summaries serve as the backbone for the Epstein and O'Halloran measure of discretion as well as a number of other measures in different studies (e.g. MacDonald 2007, Yaver?). The summaries, while usefully condensing general information about legislation, may also be incomplete in ways that are problematic for measures of discretion.

To examine this question, we focus on two bills – one that the EO measure suggests had zero delegations and one that the measure suggests had zero constraints. We focus on these cases because they most clearly demonstrate the issues we raise here. A closer examination of the statutes suggest that the characterizations of no delegation or no constraint in the summaries may not necessarily match the statutory language.

Consider, for example, the Revenue and Expenditure Control Act of 1968 (PL 90-364). The EO measure records this bill as having zero delegations, and thus zero discretion. One key provision of this act was to cap the total number of federal civilian employees at the level on June 30, 1966. This employee cap and others like it throughout the 1950s, 60s, and 70s had a significant impact on how the government was able to carry out its functions (see Light 1999, for an extended discussion). Perhaps most significantly for our purposes, the legislation delegates substantial authority to the Bureau of the Budget to determine what agencies should gain and lose employees under the cap, and gave the Director of BOB wide latitude in making that determination:

> For the purposes of paragraph (1) [which lays out the numerical limit on employees], the Director may reassign vacancies from one department or agency to another department or agency when such reassignment is, in the opinion of the Director, necessary or appropriate because of the creation of a new department or agency, because of a change in functions, or for the more efficient operation of the government.

This relatively vague grant of authority is consequential due to the importance of personnel for the capacity and production of agencies (see, for example, Carpenter et al. 2012; Potter and Shipan 2013; Bolton, Potter and Thrower 2016) as well as evidence that suggests presidents act ideologically in their allocation of personnel resources across agencies (Bolton 2016). Furthermore, the act gives the Director of BOB significant regulatory authority to carry out the employment cap policy ("The Director shall prescribe such regulations as he deems necessary or appropriate to carry out the provisions of this section"). The employment cap provision is not the only instance of what we would argue count as delegations in this legislation. For instance, there are provisions in Title I that grant the Secretary of the Treasury power to exempt corporations from some tax requirements in the bill at his or her discretion (e.g. Section 6425(d)). These relatively clear delegations of authority are missing from the CQ summaries.

Now consider a bill that, by the EO measure has a Discretion Index of one, indicating delegation in all provisions and no constraints – the 1961 Inter-American Program Appropriation (PL 87-41). The purpose of this bill was to appropriate funds for the newly created Inter-American Program (which eventually became the Inter-American Foundation). The program was established to fund development projects in Latin American countries. We argue that this appropriation bill does, in fact, include constraints on how the program could use the money. The text of the statute itself includes a constraint directly after the legislation appropriates the money [emphasis added]:

> For expenses necessary to carry out the provisions of sections 1 and 2 of the Act of

> September 8, 1960 (74 Stat. 869), $500,000,000, to remain available until expended: ***Provided*, That the funds herein appropriated shall not be available to be loaned or reloaned at interest rates considered to be excessive by the Inter-American Development Bank or higher than the legal rate of interest of the country in which the loan is made.**

This has a significant impact on the discretionary zone in which the program could operate, though it would not be counted as a constraint in the EO measure because it is not focused on procedures. However, there are procedural (and other) constraints placed on the use of the appropriation in the Senate Appropriation Committee's report on the legislation. These reports are often treated the same as law and agencies take heed to instructions in these reports in order to ensure favorable relations with the appropriations committees (Schick 2008). Indeed, the report (12322 Senate Report 201) backs up the statutory language on interest rates and other constraints with the imposition of a reporting requirement on the program administrators, which is a constraint recognized by the EO measure:

> The Committees on Appropriations of the Senate and the House of Representatives should be provided with semiannual reports on the loans made with the funds appropriated in this bill. If exceptional cases should develop in connection with loans where it is necessary to limit first-year payments to interest such exceptional cases should be reported in the aforementioned semiannual report, together with the reasons why exceptions were made to the policy outlined herein.

These examples suggest that there are potentially significant delegations and constraints that are missed when only looking to the CQ summaries. The potentially arbitrary inclusion and exclusion of some delegations and constraints from the summaries raises concerns about their utility as the basis for a measure of discretion. To summarize, in addition to its clear strengths, the EO measure has some weaknesses that limit its utility for testing some empirical hypotheses that emerge from theories of legislative discretion. In particular, the issues that arise when trying to understand dynamic discretion, as well as the reliance on CQ summaries are roadblocks to using the EO measure.

These examples raise questions about the completeness of the CQ summaries. It is unclear whether or not these omissions are systematic or not, raising further questions about how they might impact measures of discretion and the types of inferences that we can make from them. While the summaries are a convenient and easily available method of coding legislation, they may or may not capture the relevant aspects of the concept of discretion that would be necessary to create a reliable measure of discretion.