Defining, Mapping, and Measuring Bureaucratic Autonomy

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I. Introduction

What does it mean for a bureaucratic agency to be "autonomous"? How should we measure bureaucratic autonomy, and how might we incorporate this concept into models of interactions between government agencies and other political actors? Despite the substantial literature on bureaucratic autonomy, scholars in political science and public administration have yet to reach a consensus on how to conceptualize, measure, and model this crucial concept. Researchers in different traditions have focused on different aspects of bureaucratic autonomy. Formal scholars have relied primarily on principal-agent models that equate autonomy with discretion within a portion of the policy space. Historical case studies have elaborated a richer and more "political" definition of bureaucratic autonomy, emphasizing the importance of agencies' reputations, networks, and ability to influence the preferences of other actors. European public administration scholars have distinguished among various "flavors" of autonomy: managerial, financial, structural, etc. Each of these traditions has relied on distinct and often incomparable approaches to conceptualization and measurement. The result, as with any concept for which definitions and indicators vary, is confusion and a lack of accumulation in studies of bureaucratic autonomy.[2]

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[2] We are not the first to address this conceptual ambiguity. Doo Rae Kim (2008: 33-34) notes that

> …the notion of bureaucratic autonomy remains ambiguous; researchers tend to utilize several different images of bureaucracy. One image is that bureaucracy is a politicized institution that can develop internal capacity, cultivate external support, mobilize resources, and represent diverse social interests without the mediation of political institutions (Carpenter 2001; Meier 1993; Rourke 1984). A second image is that bureaucracy is considered to be Autonomous when it does not comply with what political principals would wish them to do (Eisner andMeier 1990; Wood 1988). A third image is that bureaucracy is an autonomous institution that constitutes bilateral systems with political institutions (Krause 1999). This

While each scholarly approach has its own strengths, none offers a portrait of bureaucratic autonomy that is both complex enough to be realistic and general enough to travel across historical and spatial contexts. The aim of this paper is to capitalize on the strengths of each approach and unify them into a single, mutually comparable analytic framework. To do so, we first survey the many definitions of autonomy, both in the literature on bureaucratic politics and in other contexts. After reviewing the strengths and limitations of existing definitions, we propose a re-conceptualization of bureaucratic autonomy, one that subsumes and connects other definitions while remaining analytically tractable. Our definition gives equal emphasis to two facets of autonomy: *independent goal formation* and the *capacity to achieve desired outcomes*. We then outline a strategy for operationalizing our conceptualization and discuss a variety of potential indicators. The paper concludes with suggestions for how our conceptualization of bureaucratic autonomy might be represented in formal models.

II. Literature and Conceptualization

Autonomy as a Background Concept

We begin with a discussion of the background concept[3] of autonomy, in the hope that examining how the term is used in other contexts will highlight the limitations of existing political science conceptions of bureaucratic autonomy. The idea of autonomy, usually considered as an attribute of an individual person, figures prominently in a wide variety of fields, ranging from bioethics (e.g., Mars et al. 2008) to gender studies (e.g., Friedman 1997) to liberal theories of rights, liberty, and democratic citizenship (e.g., Dworkin 1988; Kymlicka 1989). While specific definitions vary, there is broad consensus that "to be autonomous is…to be directed by considerations, desires, conditions, and characteristics that are not simply imposed externally upon one, but are part of what can somehow be considered one's authentic self" (Christman 2008: §1.0).

> conceptual ambiguity does not provide a clear understanding of what kinds of behavioral patterns constitute autonomous bureaucratic behavior, thereby keeping us from advancing a framework by which we can distinguish what bureaucrats can do from what they cannot do.

We agree with Kim's diagnosis, but will categorize definitions of bureaucratic autonomy differently.

[3] Adcock and Collier (2001) use the term *background concept* to refer to the "constellation of potentially diverse meanings associated with a given concept." They define *conceptualization* as the process of moving from the background concept to a *systematized concept,* "the specific formulation of a concept adopted by a particular researcher or group of researchers" (530).

To a much greater degree than standard political science treatments of bureaucratic autonomy, definitions of *autonomy* in other fields emphasize the sources and content of an individual's values and preferences. In contrast to freedom[4], which refers to "the ability to act, without external or internal constraints," autonomy "concerns the independence and authenticity of the desires…that move one to act in the first place." More specifically, many scholars argue that autonomous preferences require authenticity (awareness and endorsement of one's values and motivations) and competency (the capacity for rational self-direction; Christman 2008: §1.1; §1.2). Autonomy, in short, requires independence of both will and action.

In political science, the term *autonomous* is applied to collectivities as well as to individuals. One prominent strain of scholarship in this vein is that on state autonomy. Like the broader literature on individual autonomy, state autonomy scholars recognize both autonomous preferences and the capacity to achieve desired outcomes as definitional prerequisites of autonomy. Theda Skocpol, for instance, asserts that to be "autonomous" a state must be able to

> formulate and pursue goals that are not simply reflective of the demands or interests of social groups, classes, or society… Unless such independent goal formation occurs, there is little need to talk about states as important actors [or to] explore the "capacities" of states to implement official goals (1985: 9).

Elaborating upon Skocpol's requirement of independent goal formation, Peter Evans suggests that state autonomy entails not only that state goals not be determined by external social forces, but also that the state possess "the ability to formulate collective goals instead of allowing officeholders to pursue their individual interests" (1995: 45). In other words, autonomous preferences require both *differentiation* (preferences that are derived independently of, and thus potentially diverge from, other actors) and *coherence* (a single set of corporate goals endorsed by individual officeholders). Finally, state autonomy scholars stipulate that, in addition to having coherent and potentially differentiated preferences, an autonomous state is able to "translat[e] its preferences into

[4] More precisely, what Berlin terms "negative" freedom (2002: 169).

authoritative actions" that substantially affect political, economic, and social outcomes (Nordlinger 1981: 19). The two conditions emphasized in the literature on state autonomy – differentiated and coherent goals and the capacity to achieve them – serve as the basis for our own approach to bureaucratic autonomy.

Existing Definitions of Bureaucratic Autonomy

We now review the many definitions of *bureaucratic autonomy* that have been used by scholars of bureaucratic politics. Three basic strands can be discerned in the literature on bureaucratic autonomy, each of which emphasizes a different aspect of the concept. The first strand, predominantly formal in approach, defines autonomy as the ability to enact policies that will not be limited or overruled by other political actors. Works in this tradition tend to take preferences, as well as preference conflict between agencies and their principals, as exogenously determined. A smaller second branch of the literature, consisting primarily of historical case studies, utilizes a richer conception of autonomy that emphasizes the process of preference formation, primarily with respect to the ability of agencies to shift the preferences of their principals. A third strand of the literature explores the multidimensionality of bureaucratic autonomy, usually in the context of European parliamentary regimes.

Principal-Agent Definitions of Bureaucratic Autonomy

The first and dominant strand of the literature on bureaucratic autonomy has taken a formal principal-agent approach to modeling the interaction between the bureaucratic agencies and their political principals. The universe of policies is represented as a k-dimensional policy space, and agencies and other players are assumed to have preferences over outcomes in the policy space. *Bureaucratic autonomy* is defined as the extent to which agencies are able to implement outcomes that diverge from the preferred policies of their principals, without being prevented *ex ante* or punished *ex post*. This is usually operationalized as the size of the "zone of acceptance": the set of equilibrium policies that the principal(s) will not or cannot overturn (Meier 1985; see also Calvert, McCubbins and Weingast 1989; Hammond and Knott 1996, 1999; Kim 2008).

In part because the principal-agent model is so analytically tractable, this approach has generated a number of useful predictions regarding the extent to which political principals will delegate to bureaucrats. Epstein and O'Halloran (1994, 1999) and Bawn (1995) find that greater policy uncertainty on the part of political principals leads to greater delegation to bureaucrats. Furthermore, political uncertainty – specifically, current elected officials' belief that they will not be in power in the future – may result in increased delegation as a means of insulating policies against future office holders (de Figueiredo 2002; cf. Moe 1989). Another common prediction, the "ally principle," holds that the extent of delegation will generally increase as preference conflict—that is, the distance between the ideal points of bureaucrats and politicians—decreases (but not always, such as when credible commitments are important); see Bendor, Glazer & Hammond 2001). McCarty (2004) argues that the fragmentation of appointment, removal, and legislative powers results in decreased control over the bureaucracy in the United States relative to parliamentary systems. Finally, scholars have found *ex ante* and *ex post* mechanisms of bureaucratic control have been found to be substitutes, in that politicians' ability to rely on *ex post* monitoring diminishes their preference for low-discretion statutes (e.g., Bawn 1997; Gailmard 2002). Empirical work has offered a good deal of support for these theoretical propositions, though the evidence is more uneven in some areas than in others (see Huber & Shipan 2006 for a review).

Despite its contributions, the principal-agent approach has a number of important limitations. Many of these limitations stem from the fact that this framework imposes *a priori* a hierarchical relationship between bureaucratic agencies and other political actors. Specifically, these models assume that one or more political principals (legislative houses, the executive, etc.) are in a position to design *de novo* a delegation mechanism that assigns tasks to one or more agents (bureaucratic agencies). This framework captures an important element of truth, insofar as Congress (in the U.S. case) is constitutionally empowered to pass legislation establishing and regulating the bureaucracy. However, such institutional formalism neglects much of the richness of actual politics.

One problem is definitional: in formal models *autonomy* is often defined in terms that make it indistinguishable from *discretion*. As noted above and developed further below, autonomy is a rich concept that entails both independent goal formation and the capacity to translate goals into outcomes. By contrast, discretion refers to how much leeway an actor has within a given sphere of decision making. While some authors use only one term or the other, the distinction between them is rarely clear, and a number of scholars use the terms interchangeably.[5] Whether it stems from semantic carelessness or a desire for analytic tractability, this overwhelming focus on delegated policy discretion is unfortunate. As Daniel Carpenter argues, bureaucratic discretion

> is only a bare tendril of autonomy... Discretion is part of a contractual arrangement between politicians and an agency they establish... Bureaucratic autonomy, by contrast, is external to a contract and cannot be captured in a principal-agent relationship (2001a: 17).

Because the sequence of play in principal-agent models generally begins with a principal's choice over the terms of delegation,[6] it is difficult to model dynamics outside the context of the delegation contract. At some level, since the principal establishes the rules of the game, any freedom of choice the agent has is itself a product of the delegation contract (cf. Kiewiet & McCubbins 1991). In reality, creating new agencies and delegation mechanisms from scratch is costly and fraught with uncertainty, and so legislation often assigns new policy tasks to existing agencies already embedded in delegation mechanisms. The fact that bureaucratic agencies already exist when new policies are crafted means that they themselves are "player[s] in the 'game' of policy creation" and can influence the very terms of delegation (Carpenter 2001b: 115-6). The principal-agent strain of bureaucratic autonomy research ignores these dynamics entirely.

This research tradition also suffers from several additional shortcomings. With a few exceptions (e.g., Epstein and O'Halloran 1994), existing spatial models allow political principals only dichotomous choices: they can either let an issue stand or veto it. This limited range of choices leaves out a wide array of other possible actions that might impinge on autonomy, such as delay, amendment, or punishment. In doing so, these

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[5] For example, Meier (1993: 14) defines *autonomy* as "the discretion to make decisions concerning agency activities." See also Huber & Shipan's usage in their entry in *The Oxford Handbook of Political Economy* (2006).

[6] Epstein & O'Halloran (1994: 703) provide a typical sequence of play: "Congress designs an agency, more information about the world is revealed, agencies choose policies, and then Congress exercises ex post controls over the agency's decisions."

models also do not speak to the large literature on *ex ante* and *ex post* methods of political control (McCubbins, Noll and Weingast 1987; Bawn 1995; Ting 2003). Spatial models of complete information also leave aside the important issue of bureaucratic competence. Scholars in this tradition tend to assume that bureaucrats have the capacity to perfectly implement a specific outcome, a dubious assumption in many cases. Exogenous events, a shortage of funding or qualified personnel, and other limitations on bureaucratic competence can be modeled (e.g., Huber and McCarty 2004) but rarely are.

Additionally, spatial models of bureaucratic autonomy generally assume preference divergence between the agency and other actors, and such preference conflict is implicitly taken to be a necessary condition for autonomy. Empirical scholars testing the predictions of these models tend to focus on exogenous shocks to the preferences of the actors. A common strategy, for example, has been to examine whether shifts in control of Congress or the presidency were followed by shifts in policymaking by an agency (Weingast and Moran 1983; Meier 1985; Wood 1988; Eisner and Meier 1990; Potoski and Woods 2001). Such shifts are taken as evidence for political control of the bureaucracy, whereas a lack of policy change indicates of lack of control, or bureaucratic autonomy.[7] One problem with this strategy is that it limits research to publicly controversial issues, neglecting intimidation and influence that occurs behind the scenes. Furthermore, as Kiewiet and McCubbins (1991) note, these measures suffer from observational equivalence: a perfectly responsive agent that is never punished or reversed by its principal looks identical to a perfectly autonomous agent immune from external control. More to the point, preference changes (whether via persuasion or replacement) on the part of elected officials may themselves reflect the actions of bureaucratic actors (Carpenter 2001). These preference shifts may be “exogenous” to principal-agent models, but they are indications of bureaucratic autonomy of the deepest sort.

Principal-agent models of bureaucratic autonomy capture important insights about the relationship between agencies and other political actors. They focus our attention on the salience of political issues for particular principals, and on the interaction among principals that drives autonomy. Still, the principal-agent framework, the dominant modeling paradigm in this field, focuses our attention on a small sliver of bureaucratic

[7] To their credit, these authors rarely use the term autonomy to mean the opposite of political control.

autonomy, missing much of what is interesting about bureaucratic politics. Taking bureaucrats seriously as potentially autonomous political actors requires alternative modeling strategies, which we explore later in this paper.

Autonomy as Shaping the Preferences of Other Actors

A second important strand of the literature, consisting primarily of non-formal historical case studies, highlights aspects bureaucratic autonomy that the principal-agent approach misses, particularly its essentially political nature. The outstanding exemplar of this approach is Carpenter's 2001 study of bureaucratic politics in late 19th- and early 20th-century America. Our re-conceptualization of bureaucratic autonomy clearly owes a great deal to Carpenter's insights, particularly his emphasis on the potential for politically savvy bureaucratic entrepreneurs to alter the preferences of other political actors.

Carpenter's rich and realistic definition of bureaucratic autonomy represents a significant advance over thinner versions of the concept. According to him, bureaucratic autonomy exists "when politically differentiated agencies take sustained patterns of action consistent with their own wishes, patterns that will not be checked or reversed by elected authorities, organized interests, or courts" (2001a: 14). He identifies three necessary conditions for bureaucratic autonomy: political differentiation, unique organizational capacities, and political legitimacy. *Political differentiation* requires that an agency's preferences be "irreducible" – that is, distinct from those of other societal and political actors and interests (2001a: 25). *Organizational capacity* is equally crucial to Carpenter's definition, for it allows agencies (and the bureaucratic entrepreneurs within them) both to engage in policy experimentation and innovation and to translate their preferences into effective actions. Whether an agency achieves differentiation and capacity depends greatly on the bureaucratic culture of the agency (2001a: 24). Finally, bureaucratic autonomy requires *legitimacy*. An agency must convince a diverse network of citizens and political leaders of its unique capability and construct a crosscutting "program coalition" in support of the agency and its policies. In the relatively rare circumstances when these conditions are satisfied, agencies are able not only to implement their preferred policies in the face of political opposition, but even to shape the policy preferences of voters, organized interests, and politicians (2001a: 33).

Many scholars besides Carpenter have stressed bureaucrats' potential to mobilize political coalitions of supporters. "No bureau survives," notes Downs (1967: 7), "unless it is continually able to demonstrate that its services are worthwhile to some group with influence over the resources to keep it alive." Rourke (1969: 11) echoes this sentiment in his famous maxim: "a first and fundamental source of power for administrative agencies in American societies is their ability to attract outside support." In his well-known discussion of "iron triangles," Lowi (1969) examines one possible arrangement, an insulated and mutually beneficial alliance among an agency, its clientele, and a congressional committee. In his historical study of U.S. agricultural politics, Hansen (1991) shows how a bureaucratic can create its own constituency and thus improve its bargaining position vis-à-vis legislators. Finally, Schneider (1993), writing on national bureaucrats in Mexico and Brazil, notes that presidential appointment and proximity to political patrons insulate bureaucrats from societal pressures and other political actors. He argues, however, that this arrangement leaves them with "no independent strength vis-à-vis the president" (339). These studies reveal that, by mobilizing support coalitions, bureaucrats can make it costly for their nominal political principals to punish or control their agency. At the same time, however, autonomy from political principals often comes at the price of capture by other interests.

It is for this reason that Carpenter insists that bureaucratic autonomy requires that an agency exhibit both preference differentiation and support networks that cut across partisan and other cleavages. This seems to us a reasonable empirical claim and one that other scholars have adopted and refined.[8] We are concerned, however, that Carpenter's definition risks conflating the conditions propitious to the creation of autonomy, or the process of gaining autonomy, with the condition of autonomy itself. For example, cultivating a reputation for unique competence among a crosscutting support network may be a highly conducive to becoming autonomous, but it is not part of the conceptual core of autonomy. As Roberts (2006) shows in his case study of FEMA, agency reputations are quite fragile, and they promote bureaucratic autonomy only insofar as

[8] Yesilkagit (2004: 531), building on Carpenter, Downs, and others, enumerates the following list of empirical prerequisites of bureaucratic autonomy: (a) "acceptation of the agency by its (political) supporters [and] beneficiaries"; (b) legitimacy based on a reputation for unique capacity and grounded in multiple networks of supporters; and (c) a distinctive and clearly recognized jurisdiction, area of expertise, and clientele.

they allow agencies to alter to their own advantage the electoral incentives of politicians. The conditions Carpenter describes (entrepreneurship, diverse networks, unique capacity) may in fact have been necessary for federal agencies in the Progressive-Era United States, but they might need to be modified or abandoned for the concept to travel well outside of the specific context he considers. By building empirical conditions into his definition of bureaucratic autonomy, Carpenter unduly restricts its domain of applicability.

We also disagree with Carpenter's decision to follow scholars in the spatial tradition and build preference divergence into the very definition of *bureaucratic autonomy*. In Carpenter's conceptualization, "preferences are, by construction, distinct from the preferences of politicians and organized interests" (2001a: 17). While we agree that observing bureaucratic autonomy without preference conflict may be difficult or even impossible, we are reluctant to incorporate this condition into our definition of the concept. Should an agency not be considered autonomous if it arrives at its policy objectives by an independent process, but these goals happen to coincide with another political actor's? Indeed, this requirement is curious in light of Carpenter's chief insight, which is that autonomous agencies have the ability to bring other actors' preferences in line with their own.[9] Carpenter's requirement of preference divergence implies that an autonomous agency loses its autonomy if it actually succeeds in changing the preferences of other actors. This seems to suggest a much more ephemeral or episodic notion of bureaucratic autonomy than Carpenter (or we) would advocate.

Carpenter's work has contributed to our understanding of bureaucratic autonomy in many respects. In departing from the principal-agent framework, he allows for the study of aspects of autonomy that do not fit well into that framework. He highlights the importance of creative innovation and entrepreneurship and of strategic political interaction among agencies, citizens, and elected officials. He focuses our attention on the essentially political nature of bureaucratic autonomy and on the potential for agencies to shape the very preferences of other actors. Nevertheless, we believe that Carpenter's definition of bureaucratic autonomy would be improved if it were cast in simpler and

[9] Indeed, it is this emphasis on the temporal sequence of preference formation (agency, then other actors) that necessitates Carpenter's historical approach, as a *methodological* move. We thank Jacob Hacker and Paul Pierson for emphasizing this point to us.

more general terms that could apply in a wider array of contexts. We also disagree with his requirement of actual preference divergence between agency's and other actors, rather than merely the potential for such differentiation.

Multidimensional Conceptions of Bureaucratic Autonomy

A third major literature on bureaucratic autonomy, emphasizing the multidimensional nature of autonomy, focuses on the relationship between bureaucratic agencies and departmental ministers in European parliamentary systems. Scholars in this tradition identify many types or "flavors" of bureaucratic autonomy, each of which may vary somewhat independently of the others (Christensen & Lægreid. 2006: 13). Verhoest et. al. (2004) offer a particularly useful conceptual map of bureaucratic autonomy (and its close cousin, "autonomization"). They first distinguish between "autonomy as the level of decision-making competencies" and "autonomy as the exemption of constraints on the actual use of decision-making competencies" (Verhoest 2004: 104-106). The former may loosely be thought of as the relative absence of *ex ante* restrictions on agency behavior, and the latter as involving *ex post* constraints and punishment.

The first, *ex ante* branch of autonomy includes *managerial autonomy*, which involves agency discretion over "inputs," such as the agency's employees[10] or internal budgetary allocations. This branch also encompasses *policy autonomy*, which describes an agency's ability to make decision over policy "outputs." Agencies with low policy autonomy may have discretion only over which "(sub)processes and procedures" to follow in producing goods or services prescribed by political principals. Agencies with greater policy autonomy, however, are able to select "the policy instruments [used] to implement the externally set policy and the quantity and quality of the goods or services to be produced." In maximally autonomous agencies, bureaucrats make basic decisions about the groups policies target and the "societal objectives and outcomes" they aim to achieve (Verhoest et al. 2004: 104-105).[11]

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[10] Lægreid, Roness & Rubecksen (2006: 247), following Christensen and Lægreid (1998), define *personnel autonomy* as "discretion both in personnel matters and in setting pay scales and salaries."

[11] Lægreid, Roness & Rubecksen (2006: 250) make a further distinction between *strategic policy autonomy* and *operational policy autonomy*. Strategic policy autonomy "concerns the ability of the agency to set its own goals and objectives… Operational policy autonomy is the degree of freedom that agencies have in making decisions about policy instruments and task accomplishment."

The second branch of autonomy described by Verhoest and colleagues has four components, each corresponding to insulation from a different form of *ex post* control or punishment from elected officials. The first is *structural autonomy*, which describes the degree to which agencies are insulated from elected officials by intervening layers of hierarchy and supervision (Verhoest et al. 2004: 105; *cf.* Christensen 1999). In an agency with extensive structural autonomy, for example, the agency head might be chosen and evaluated by a supervisory board over which current elected officials have little control. *Financial autonomy* denotes the extent to which an agency has independent and secure sources of revenue, as well as the extent to which it is responsible for its own losses (Verhoest et al. 2004: 106).[12] A financially autonomous agency is likely to be relatively insulated from financial punishment (e.g., budget cuts) from political principals. *Legal autonomy* denotes the extent to which an agency's separate legal personality under the law prevents or discourages electoral officials from interfering in the agency's "allocation of decision-making competencies." Finally, *interventional autonomy* describes an agency's freedom from *ex post* oversight and punishment by elected officials (Verhoest et al. 2004: 106). Many authors follow a similar approach to Verhoest et al. (2004) but make further distinctions within categories.[13]

In general, this approach is legalistic and rather apolitical, implicitly assuming strict legal enforcement and a highly functional rule of law. Thus these measures correspond more closely to an agency's *formal autonomy*, the legally specified limits of political oversight, than to its "de facto" or "real world" autonomy. Whereas formal autonomy is likely to be stable in the absence of formal legal changes, real autonomy is dynamic and contingent on factors such as agency culture and the power and actions of external political actors (Yesilkagit & van Thiel 2008; cf. Hammond & Knott 1996). As Yesilkagit (2004: 531) stresses, real autonomy is rarely an "exact reflection" of formal autonomy. Real and formal autonomy are especially likely to diverge where legal

[12] Scholars in the "New Public Management" school of public administration have emphasized that autonomization can lead to superior performance, but only if proper incentives (such as risk-transfer and "property rights" over policy areas) are put in place (Verhoest et al. 2004: 101-02)
[13] See, for example, Christensen and Lægreid's 2006 edited volume *Autonomy and Regulation*.

standards are not adequately backed up with enforcement mechanisms, a condition common in much of the developing world.[14]

We believe that a multidimensional approach provides much-needed nuance and realism to the study of bureaucratic autonomy. We would like to resist, however, the urge to fragment bureaucratic autonomy into a multitude of conceptual dimensions, each varying independently of the others.[15] We therefore adopt a more general definition of bureaucratic autonomy, while drawing on this literature for empirical indicators of autonomy, particularly the mechanisms by which elected political actors can *ex ante* constrain or *ex post* interfere with or punish bureaucratic agencies.

Re-conceptualizing Bureaucratic Autonomy

In light of the limitations of existing definitions, we propose a re-conceptualization of bureaucratic autonomy. Our aim is to devise a richer definition that incorporates elements central to autonomy as it is used in other contexts, while still maintaining continuity with previous research on bureaucratic autonomy.

First of all, we define *bureaucratic autonomy* as a property of a government organization staffed by non-elected public officials. While a government agency may display more or less autonomy in its relations with other political actors, bureaucratic autonomy does not reside in the relationship between (or dyad of) two organizations. Such "relational autonomy" is instead a manifestation of an agency's intrinsic autonomy. In this respect we depart somewhat from the standard principal-agent view of bureaucratic autonomy, which typically focuses on the relationship between a government agency and a political principal, usually the legislature. By our logic, an agency that is autonomous from one actor (e.g., Congress) but captured by another (e.g., an interest group) would not be highly autonomous. Though it may sometimes be convenient to refer to an agency as "autonomous" or "not autonomous" depending on whether it exceeds some threshold level of autonomy, we view bureaucratic autonomy as

[14] For example, in Brazil, the president and governors have discretion over how much of an allocated budget amount will actually be spent on a given agency each year. Although the legislature specifies that a particular proportion of the total budget should be spent on each governmental function, the executive may release anywhere from 0% to 100% of the allocated amount, with almost no legal ramifications (see Desposato 2001: ch. 2 for details).
[15] See Collier & Levistky (1997) on the hazards of "diminished subtypes."

a fundamentally continuous rather than dichotomous variable.[16] Finally, it may be possible to conceive of perfect autonomy as an ideal, but in practice no institution can be completely autonomous from all other political and social actors. Rather, some organizations can be said to be more or less autonomous than others.

Having defined bureaucratic autonomy as a continuous property of a government agency, we now specify what exactly bureaucratic autonomy entails. We argue that bureaucratic autonomy consists of two sub-concepts: independent goal formation and the capacity to achieve desired outcomes. By *independent goal formation*, we mean that the objectives and preferences of the agency are created independently of, and not simply derived from, the interests and demands of external socio-political actors. Following Evans (1995), we argue that autonomous preferences must be both independent of external actors (*differentiation*) and collectively endorsed within the organization (*coherence*). Our definition of differentiation is procedural in the sense that what matters is that an agency's preferences be formed through a process that could potentially have yielded differentiated preferences – not that the agency's preferences actually diverge from those of any particular political actor. Of course, in practice bureaucratic autonomy may only be observable when the preferences of the agency conflict with those of other actors, but we view this as an issue of measurement rather than conceptualization. Even if a bureau does not have different preferences from all other actors, it may still be autonomous if it reached its preferences through an independent process that could have yielded differentiated preferences and goals.

Moreover, in our view it only makes sense to characterize an agency's preferences as "autonomous" if there is in fact a coherent set of collective goals that are widely recognized and endorsed by members of the organization. Bureaus with high levels of autonomy must have functioning collective choice mechanisms in place to lend coherence to the preferences of the organization, as an organization. It is likely that high levels of institutionalization and group identity will be observed in autonomous

[16] Dahl (1989: 48) makes a similar argument with reference to individual moral autonomy: "Moral action always occurs within limits, many of which—probably most of which—are beyond the actor's control. Like absolute and unlimited freedom, unlimited autonomy is impossible… Moral autonomy is not a constant but a variable; it is not all or nothing, either 0 or 1, but a property or good that one might, so to speak, seek to maximize within reasonable limits."

organizations. Autonomous preferences preclude situations in which an organization is totally dependent on external sources for information about the world.

It is not enough for an organization to merely have autonomous preferences; it must have the *capacity to achieve desired outcomes*. Focusing solely on formal autonomy is not sufficient since a formally autonomous agency might have little real autonomy, and an agency with limited formal autonomy might have a great deal of *de facto* autonomy. An agency's capacity to implement its preferences is a function of its organizational *resources* and its freedom from external *constraints*. First, an agency must have the resources necessary to accomplish its tasks and goals. Relevant resources may include ample budgetary funding, a broad legal mandate, a robust planning capacity, a positive public image, and powerful networks of political support. In addition, an agency's capacity to implement goals depends on the nature of its relationships with other political actors – specifically, other actors' capacity to constrain or punish the agency. External actors can limit the autonomy of an agency in three basic ways: prevention, reversal, and punishment.

First, an external actor may *ex ante* prevent an agency from accomplishing an action. In many cases, an agency cannot act unless another actor positively assents (or at least declines to veto). For example, an agency may have the planning and managerial capacity to design and run a new program, but actually implementing the program may depend on a specific funding appropriation from the legislature. If the legislature does not approve such an appropriation, the agency cannot achieve its goal of implementing the program.

Second, an agency may be able to carry out an action unilaterally, but other actors can reverse or modify the action after the fact. For example, an agency may take advantage of statutory vagueness to promulgate a regulation of its own devising, but the legislature may respond with new legislation overturning the agency's action.[17] In such situations, the agency achieves its goal, but only for a limited period of time. The length of time it takes for a decision to be overturned is significant, for in the interim the agency's action may be the law of the land. The scope of overturning is also very

[17] An example of such an overturning in the judicial sphere would be the Civil Rights Act of 1991, which reversed a series of Supreme Court rulings limiting the right to sue over employment discrimination.

important. If another actor (such as a court) merely overturns a specific case or instance of a bureau's action, this has little impact on the bureau's autonomy. On the other hand, the ability of other actors to overrule entire policies or policy areas restricts bureaucratic autonomy much more severely.

Third, in some cases an agency can accomplish its goals without being prevented or reversed, but an external actor is able punish the agency by imposing certain costs on it. For example, an agency whose actions displease its political superiors may experience dramatic budget cuts; alternatively, individual bureaucrats may find their salaries reduced or their jobs eliminated. Such punishment may occur for actions related directly to agency policy-making, or for in response to political activity or mobilization on the part of the agency. Due to the power of anticipated reaction, the ability of other actors to punish an agency is likely to have significant but subtle effects. Indeed, if punishment is a sufficient deterrent it may never be observed in equilibrium. Thus measuring the extent to which punishment compromises the autonomy of an agency will be difficult in many cases.

There is nothing inherent in bureaucratic autonomy that requires an agency only have preferences over policy outcomes. Indeed, many studies of bureaucracy have posited that bureaucrats seek to maximize their budget or minimize their effort rather than achieve particular policy goals. Nevertheless, we believe that when studying bureaucratic autonomy it is reasonable and appropriate to restrict one's attention to agencies' preferences over policy outcomes, at least primarily. While it may be possible to incorporate preferences for leisure or budget size into the utility functions of bureaucrats, policy outcomes should be the main focus. We do not mean to imply that an autonomous agency should be able to transform the world to its specifications, which would be a ridiculously high standard, nor that it merely be able to formulate regulations that have no actual impact. Rather, achieving a preferred policy outcome means that an agency implements a policy that the state apparatus as a whole enforces and views as the legitimate law of the land.

As Carpenter (2001a) demonstrates, one of the most effective ways an agency can achieve its policy goals is by manipulating the induced policy preferences of other political actors, notably elected officials. The adjective *induced* is crucial here, for while politicians may also have preferences over policies *per se*,[18] their need to achieve election must take precedence.[19] Bureaucrats may influence legislators' induced preferences over policy by activating interest group allies, changing the preferences of constituents, or pursuing other strategies that might change the reelection calculus for legislators. It is by influencing the election prospects of their nominal political principals that bureaucrats can influence the very terms of their delegation contract, which in turn is a means for them to more effectively achieve their policy goals. The resources and constraints relevant to the renegotiating the delegation contract may be very different from those relevant for setting policy directly, but both must be considered in assessing levels of bureaucratic autonomy.

To summarize, we re-conceptualize bureaucratic autonomy as being composed of two key sub-concepts: independent goal formation and the capacity to achieve desired outcomes. Autonomous agencies possess externally differentiated and internally coherent preferences (primarily over policy outcomes) that they are able to achieve either directly, by setting policy, or indirectly, through the political process. An agency's capacity to achieve desired outcomes depends on its organizational resources and on the extent to which other actors can veto, reverse, or punish the agency. We believe this conceptualization captures the richness of bureaucratic autonomy, yet is general enough to be applied in many contexts using a variety of analytic strategies.

III. Indicators

We now consider potential indicators for the concepts discussed above. Turning first to independent goal formation, we divide this concept into two distinct sub-concepts. First, autonomous agencies have the ability to learn about the world "objectively" and without interference, manipulation, or control. In order to formulate policy goals, autonomous agencies must be able to collect unbiased and relatively complete information about the world as it relates to their policy area and about the effects of potential policy choices. There is obviously an upper bound to how much information an

[18] Which bureaucrats may also influence by, for example, convincing politicians of the effectiveness of a given policy.
[19] In the words of Mayhew (2004[1974]: 16), reelection "has to be the *proximate* goal of everyone, the goal that must be achieved over and over if other ends are to be entertained."

agency can gather. Under-funded agencies may still be able to collect the information sufficient to set policy. (We interpret goal formation broadly, to include more than learning. Multiple agencies are charged with open-ended policy tasks and must decide how best to accomplish them.) Thus, measures of capacity to gather information must be sensitive to the level of resources necessary to formulate policy. With that in mind, we propose the following indicators for this sub-concept:

1. **Qualified Staff**: Autonomous agencies will have technically qualified staff to gather information, diagnose problems that the agency should address, and array the possible steps the agency could take in response to these problems. Indicators include the number of staff members devoted to information gathering, the average educational background of information-gathering staff members, and the comparability of staff salaries to equally qualified individuals in the private sector.
2. **Diverse Sources of Information**: More autonomous agencies should be able to draw from multiple sources of information so as to avoid excessive dependence on a single source. Less autonomous agencies will be restricted in the sources they can use or consult. Indicators include the number of different sources cited in agency reports, the presence of absence of public hearings and the number and quality of comments received, and the number of different sources from which the agency can receive outside advice (perhaps measured through survey or interview data).
3. **Investigative powers**: Autonomous agencies should have the ability to conduct its own investigations rather than simply relying on information from outside sources. Indicators include whether the agency has subpoena power, whether it allows for public comments, whether it has an investigative branch, and whether it can refer investigations to a qualified peer agency.
4. **Money for investigations**: Agencies that are independent in gathering information require sufficient funds to perform this task. Indicators include total agency funding, percent of funding set aside specifically for information gathering and investigations, the proportion of the annual budget request that is

granted, sources of increased funding if the need arises, and finally how the information-gathering budget compares to those of peer agencies.

5. **Report quality**: Autonomous agencies should be able to communicate their findings and views clearly to outside groups. Doing so makes the agency's activities more transparent, which raises the cost of interference. Additionally, high-quality reports will be more valuable to decision-making and policy-implementing branches of the bureau. Indicators include whether the agency compiles and publicizes findings and report length.

Second, more autonomous agencies have collective choice mechanisms that allow them to set independent preferences and make decisions as a group. These coherent preferences or goals are then accepted and legitimized by component parts of the organization, providing a basis for collective action. Groups lacking autonomy will divide over collective decisions, or foster factions working at cross-purposes. Autonomous groups will be able to set preferences and goals with minimal influence or interference from outside actors, meaning that individuals involved in the collective choice process should be acting as agents of the bureau rather than as agents of other political actors. To measure independent group decision-making and cohesion, we propose the following indicators:

1. **Organizational Identity:** Autonomous agencies should be made up of staff members who share a set of clearly defined roles and aims for the agency. They should have a sense of belonging to a group whose collective goals they support and attempt to advance. Survey measures might include questions about the existence of an group identity and whether individuals have a sense of the bureau's "mission."
2. **Veto Points Internal to the Bureau:** Veto-points in making decisions about bureau goals should be internal to the organization rather than external. Indicators would include an analysis of which actors have the ability to approve or halt action on goal formation, as well as the amount of discretion over goal setting included in the delegation contract.
3. **Career Stability:** In order to foster collective choice mechanisms, an agency needs a stable staff that is committed to the organization. Indicators include

statistics on the length of time employees spend in the federal bureaucracy, length of time in a particular bureau, and length of time in a particular position, as well as opportunities for advancement and promotion within the bureau.

4. **Politicization:** A highly-politicized bureau in which political appointees are largely responsible for setting the agenda is not likely to be highly autonomous. Indicators include the percentage of the bureau's staff that is made up of political appointees, the types of political appointees (in the US, Senate-approved appointees are more likely to have decision-making power than Schedule C appointees; see Lewis 2008), and qualitative measures of the ability of the organization to respond to political appointees and frustrate their ability to change the goals or direction of the bureau.
5. **Independent Leadership:** Leadership in an autonomous agency should come from inside the organization, and should identify primarily with the agency as opposed to other organizations, a political party, the President or Congress who appointed them, a class of "top managers," and so on. Indicators would include the politicization indicators discussed above, as well as the percentage of the leadership that is promoted from within the organization, the length of time leaders spend in the bureau before being promoted to a top position, and what happens to leaders after they leave their positions (i.e. do bureau chiefs typically stay on at their positions until retirement or do they quickly move on to jobs at lobbying firms?).

Once an agency has formed independent preferences and goals, it must also be able to translate these goals into action. As such, we now turn to indicators for the second half of our definition of bureaucratic autonomy. First, an autonomous agency must have the ability to act cohesively and as an organization. The indicators for this sub-concept are essentially similar to those for collective choice, in that the ability to act cohesively requires the same resources as the ability to make choices cohesively. One additional indicator that may be more important for actions than for goal-setting is the existence of a hierarchy that differentiates and unifies tasks.

Second, the agency must have the ability to act, and to do so independent of influence from other actors. The literature largely treats this as bureaucratic discretion, which comprises the legal mandate and the support of political principles to set policy in some area. This literature, however, leaves out the resources necessary to accomplish these ends. In many cases, agencies may have the discretion to set policy but not the means to do so. We propose the following indicators for the ability of an agency to act independently:

1. **Legal Mandate:** Autonomous agencies that are charged with a specific task (or, following Carpenter 2001a, not legally precluded from accomplishing a task) will have the legal authority to set policies. By contrast, less autonomous agencies may have less freedom (discretion) to move because of legal constraints on their potential actions. Indicators include the size of the policy space within which the agency is required to, permitted to, or prohibited from acting.
2. **Financial Resources:** Autonomous agencies will require funds to set and implement policies. Indicators include total budget, percentage of budget requests approved each year, and size of budget as compared to peer agencies.
3. **Other Resources:** In addition to money spent on actually carrying out policies, autonomous agencies require additional resources such as personnel, expertise, and time. Indicators include the number of employees who specifically deal with policy implementation as opposed to preference formation, educational attainment of staff, "experience" levels of staff, and staff educational specialization.
4. **Case Studies of "Clash":** A final useful indicator of the ability of bureaucracies to act is to identify situations in which the agency and another important political actor clash over the ideal policy to implement. Although such clashes will not occur in all situations where agencies are acting independently, when they do they can be a useful indicator of agency power. Studies of exogenous shifts in preferences, either on the part of agencies or other actors, would also fall under this category.

Policy discretion often refers to a subset of the policy space, a set of activities that political principals will allow the agency to undertake without fear of punishment or reversal. While the second sub-concept above referred to the ability of an agency to simply act, the third and fourth sub-concepts refer to what happens after the agency takes a specific action. Third, therefore, we must measure the ability of an agency to be relatively free from retribution for actions taken. We suggest the following indicators for this sub-concept:

1. **Interest group alliances**: Allies who can come to the defense of an agency if other political actors such as Congress or the President attempt to discipline the agency may be important for autonomy. Indicators would include both the number of interest group alliances and their power over political actors. Thus, a wealthy organization that makes significant campaign contributions would be more significant here than a small, local organization that writes a few letters to the President.
2. **"Reputation"**: Although this is a somewhat fuzzy indicator, principles may nonetheless be reluctant to punish agencies with a well-regarded reputation among the public or other important actors. Indicators would likely include interviews or survey measures of agency reputation and expertise. An additional indicator would be whether there exist other agencies or non-governmental organizations with similar expertise that can offer competing information to political actors.
3. **Public Goods Provided by Agency**: If an agency provides a vital service, Congress (or other political actors) may be reluctant to cut agency budgets or otherwise impose costs on the agency, even if the bureau strays far from its ideal point (Moe 1983). Indicators would include the dollar value of services provided by the agency, type of service provided by the agency, and centrality of service provided by the agency to the party platform of the President and/or party in control of Congress.

Fourth, regardless of whether they are directly punished for their actions, autonomous bureaus should be relatively safe from having their decisions reversed or overruled.

1. **Existence of Multiple Principals**: As the number of principles increases, it will be more difficult for any one principal to overrule the agency because it will be more difficult for the principles to coordinate on an alternate policy. The main indicator here would simply be the number of principles who have the ability to change the bureau's policies after-the-fact.
2. **Numerical count of policy invalidation**: Although a rough measure that may be misleading in equilibrium, a numerical count of the policies reversed by either the courts or by other actors is a reasonable "first cut" measure of this sub-concept.
3. **Legal Factors**: The legal opportunities for courts to invalidate policies are crucial for autonomy. This is related to the agency's legal mandate but distinct in that courts may interpret different types of delegation in different ways. Interpretation of statutes has also changed over time, with U.S. courts allowing more discretion on the part of agencies after *Chevron* (1984). At the same time, agencies themselves may have legal weapons to wield depending on the nature of the delegation contract. Indicators here include length of statute, statute language giving agencies legal recourse to reverse decisions by political actors against their policies, and the degree of administrative law in the policy area.
4. **Competing Policies**: An additional important indicator is the number of competing policies that exist. Where there exist many competing groups creating alternative policies, an agency may have less autonomy than when the agency is the sole actor in a particular arena. This is especially true because principals and other political actors may have a difficult time overruling agency decisions when there is no viable alternative policy. Indicators would include the number of other bureaus and non-governmental organizations with overlapping missions or issue areas.

Fifth, our definition of autonomy goes beyond discretion and the ability to take actions and includes the ability of agencies to renegotiate the original delegation contract. This means that it is critical to measure the ability of agencies to change the delegation contract and influence the preferences of "principals."

1. **Diverse interest group relationships/networks**: Relationships with interest groups may allow agencies to put pressure on elected officials. Further, diverse or crosscutting alliances make it possible to influence a range of principals. Indicators include number of interest group alliances, diversity of interest group alliances, and the amount of lobbying associated groups engage in with regard to agency activity.
2. **Constituency**: An agency with a clear and identifiable constituency and the ability to mobilize that constituency may also be able to put pressure on reelection-focused principals. Specific channels might include working through interest group networks or through more direct contact with constituents. Indicators here would be the degree of solicited outside cooperation and invited advocacy.
3. **Salience of Issue**: We would expect that agencies dealing with policies that are central to reelection (i.e. policies are something that a significant portion of the electorate cares enough about to base a vote on) would be more able to change the preferences of members of Congress. The major indicator here would be polling, specifically which issues the electorate seems to base voting decisions. An additional indicator might be an analysis of the issues that campaigns focus upon.

1 Formal Models of Autonomy

Given the prominence of formal models in studies of bureaucracy and bureaucratic control, we offer the following models to illustrate our understanding of bureaucratic autonomy. We do not attempt to solve the model, or derive implications, but instead offer suggestions for future research. For this reason, the models are offered as rough outlines for use by other scholars.

Models are necessarily sparse representations of a rich concept, but we believe that developing more of this interaction is valuable. Our suggested framework allows us to highlight important components of our conceptualization that are absent in other formal models of autonomy. The following sketches will hopefully facilitate exchange among groups of scholars using varying tools, to study new strategic interactions and generate useful hypotheses.

We propose two possible sets of models. The first replies upon the principal-agent framework in which a supervising principal delegates a task and the means to accomplish it to a subordinate agent. We believe that this most accurately captures situations in which Congress creates an agency from scratch. More commonly, Congress must interact with an established agency or bureaucratic body with known resources and staff. The process over policy-setting might therefore resemble more a bargaining or signaling game than a game of delegation, in which relatively co-equal actors with differing prefernces negotiate over policy. In the second type of models, therefore, we propose an interaction between roughly equal actors.

1.1 Principal-Agent Models

Our first model borrows from a general principal-agent model, in which a political principal has designated an agent to implement a policy. The model is firmly in the tradition of models of bureaucratic delegation (Epstein and O'Halloran 1994; Bendor, Glazer, and Hammond 2001; Bawn 1995). Principal-agent models are most appropriate when we conceive of political actors establishing an agency to perform a delegated task. As discussed above, however, these models may sometimes be a less accurate depiction of bureaucrat-legislator interaction where agencies have their own resources, reputations, and constituents. In this model, the principal moves first in selecting an agent and assigning them some policy responsibility.

We divide the model into two sections: the goal-formation game, and the policy-implementation game.

1.1.1 Goal Formation Game

First, suppose that there exist a principal P and an agent A. Both actors have satiable, twice-differentiable, quasi-concave symmetric utility functions, centered at ideal points $x_P > x_A$ on a unidimensional policy axis. There is a state of the world $\theta \in \Theta$ with known probability distribution $\theta \sim f(\theta)$. θ varies between zero and some finite upper limit y (such that $\int_0^y f(\theta) = 1$). Neither player initially knows the exact value of θ, but they know that it follows the probability distribution function f.

The strategic interaction might proceed as follows:

(a) The principal P initially selects some cost c, which is transferred to A.

We let c represent the cost of providing an agency resources and support to complete its investigations and perform other tasks. The principal pays cost c, which the agency receives. The gain and loss are incorporated into their respective utility functions.

(b) A can keep transfer c, and not invest in learning about the state of the world. She then makes policy in ignorance, setting a policy w such that the outcome is $x = \theta - w$. The game ends

and payoffs are realized.[1]

Alternatively, she can use the transfer c it to invest in expertise, learning about the state of the world θ. If A invests in expertise, she forfeits the c from her utility function.

(*c*) If the agent A decides to investigate, she pays the cost c and learns the value of θ with probability π. She does not learn the value of θ with probability $1 - \pi$.[2] The variable π is a function of the capacity delegated to the agent A. Symbolically, we suppose that

$$\pi = f(c), f'(c) > 0, f''(c) < 0, \pi \in [0, 1] \tag{1}$$

Note that an informed agent (one who learns the true value of θ) will always set policy w such that $x = x_P$, or $w = \theta - x_p$. Given preference divergence, tThe principal will always have an incentive to improve on this by shifting the outcome toward her ideal point.

(*d*) Suppose that the principal can pay a price d to intervene in the fact-finding process, moving an informed agency's information on θ to the left (in a negative direction) by some amount θ_D, such that

$$\theta_D \in (0, 1), \theta_D = m(d), m'(d) > 0, m''(d) > 0 \tag{2}$$

Thus the principal's ability to distort the learning process in her favor is a function of the cost paid to intervene initially. The ability of the principal to intervene in and affect the learning process increases quickly as the costs of intervention rise. In turn, let

$$d = g(c, k, r), \frac{\partial d}{\partial c}, \frac{\partial^2 d}{\partial c^2}, \frac{\partial d}{\partial k}, \frac{\partial^2 d}{\partial k^2}, \frac{\partial d}{\partial r}, \frac{\partial^2 d}{\partial r^2} > 0 \tag{3}$$

Where c is the investment in capacity from above, and k is the strength of the agency's networks with allies. For now, we set aside whether k is endogenous to policy choice, prior agency activity, or is an exogenous parameter.[3] Finally, r is a vector of formal autonomy - the legal texts that protect the agency's decision-making process. These might be interacted with a measure of the rule of law, especially in contexts where legal enforcement is low or stunted.

(*e*) Suppose also that the agency A can rely on its supporters to either:
a) impose costs on the principal for its intervention, or
b) learn the size of θ, thus neutralizing the distortion of θ_D.

We consider each possibility in turn.

Suppose first that A can impose additional costs for intervention on the principal. A might be given another step to impose costs *post hoc* in any number of ways. These costs (a single transfer) migth correspond to slacking, withholding information, or other retaliatory measures. Then a credible threat to impose costs might deter intervention and meddling. Intervention then might be driven by sufficiently large preference divergence between the principal and the actor, such that intervention becomes worth the cost.

We might represent an intervention by letting the agency A bear cost d_A, while the principal P bears cost βd_A, where $\beta > 1$. This disparity reflects the privileged position that the agency

[1] Note that, at this point, because the agency has not formulated any goals, the principal has no opportunity to intervene in the process. Solving the model might reveal that the agent does not invest because she fears intervention by the principal, which would signify compromised autonomy. (a sign of compromised autonomy).

[2] The uncertainty is added to allow for human error in fact-finding.

[3] For example, the interaction might be conceived as a repeated game, where this interaction is the stage game, and through a process the agency "acquires" or "grows" k. In words, k might represent political capital or reputation, or might be given by the proportion of voters or legislators whose ideal points are closer to outcome x_{t-1} than they are to the prior status quo x_{t-2}.

holds as the actor implementing policy, and the fact that poor policy results threaten the tenure of the principal more directly than they affect the tenure of the agent.[4]

Second, suppose that A can invest more to find the true size of θ. Then the agency bears the cost d_A, and learns θ with probability π', where

$$\pi' = h(d_A), h'(d_A) > 0, h''(d_A) < 0 \tag{4}$$

Again, this analysis returns to the fact-finding capacities granted to the agency. As before, when agency costs are high enough and preference divergence between P and A is low, the agency may not contest the intervention.

(f) The game ends with A implementing policy w, whether she is informed or not.

These outlines of a principal-agent interaction capture several key elements from our conceptual discussion above, most prominently the goal-formation stage undertaken by an agent, and the centrality of the agent's ability to impose costs on the principal. We turn to next to the possibilities for intervention when an agency implements policy.

1.1.2 Policy Implementation Game

We first outline and critique the traditional spatial model view of bureaucratic autonomy, which is too easily confused with bureaucratic discretion. We highlight and expand this distinction earlier in the text.

As before, assume actors P and A with ideal points on a unidimensional policy space. The principal P could in theory define an acceptable policy space for the agent A, as Epstein and O'Halloran (1994) explain. They conceive of a principal that completely forbids and disables any action outside the window.[5] This might be considered a full description of discretion, not of autonomy. However, a similar spatial model is often used, erroneously in our opinion, to describe autonomy, which is defined as the area of policies in which a sufficient number of principals cannot veto the policy in favor of the status quo (Hammond and Knott 1996, 1999; Kim 2007). The area of discretion proposed in these models may be a component of autonomydiscretion, or may be a good approximation that can be used to measure autonomy, but it is not autonomy itself.

Instead, consider the game as before. A principal P has delegated a task to an agent A, which has or has not invested in expertise and learned about the state of the world. We add a third actor, C, the constituent of P and client of A.

(a) Suppose that the agent A announces that it will implement policy w_1, such that the final outcome will be $x_1 = \theta - w_1$. This set-up might approximate the periods that U.S. agencies grant outsiders for public comment and revision after initial rule-making.

(b) Having seen the proposal w_1, the principal P might make a counter-offer or suggestion of w_2, expecting that the resulting outcome $x_2 = \theta - w_2$ is closer to her ideal point than is the original outcome. Having delegated her authority, P cannot enforce her policy.

(c) Alternatively, P may instead be capable of shifting the outcome x_1 toward her ideal points by one of two indirect means.

1) First, suppose that policy w_1 is implemented and both actors learn about the state of the world from the resultant outcome. Everyone realizes payoffs. P may then wish to augment

[4] Assuming some minimal career protections.

[5] From the perspective of the principal, this choice is of a limited continuous range is Pareto-superior to a choice of discrete menu options. See Gailmard (2009).

or change the policyoutcome by implementing another policy afterward, which does nothing to diminish the autonomy of the agent itself.[6]

2) Suppose that the principal wishes to modify, prevent, or delay the action before implementation. To do so, she either shifts w_1 in a single direction, refuses to implement it, or implements the status quo. Taking any of these actions is an attempt to compromise the autonomy of the agency A.

(d) The agent A is autonomous if she can impose costs on P for selecting option (b) in the previous step. To do so, A sends a signal to C on the value of θ, which C maps into a calculation of the benefits she might receive from the implementation of w_1.

(e) C is then able to impose costs (in the form of a lump transfer) on P if she deems the policy x_1 more desirable.

(f) Facing the costs of interference, P is able to withdraw or modify her attempt at intervention in the implementation of w_1.

In both cases, we locate autonomy in the interaction between principal, agent, and client/constituent. The phenomenon is relational, though the ability to employ these relations - specifically, the networks, favor, and sources of leverage among the actors - lies beyond the scope of our simple models, and so is left for future work.

1.2 Models of Equal Actors

Not all bureaucratic actions conform to a model whereby a principal delegates to an agent. In many situations, the legislature or executive interacts with an established actor with a significant staff, resources, network, and prior history. In many cases, informational asymmetries compel the bureaucratic actor to move first, informing the political actor about the state of the world.

Most prominent among these models is that of Carpenter (2001), who traces the autonomy of major cabinet departments to bureaucratic 'entrepreneurs.' in the late nineteenth and early twentieth century. Hansen (1991) provides another example of bureaucratic bodies that built their own constituencies and thus improved their bargaining position vis-a-vis legislators. We follow this tradition by sketching a model of negotiation between two actors with their own resources and capabilities.

The following model eschews a spatial framework in favor of a model following Gailmard and Patty (2007). In place of two actors setting policy in some finite-dimensional policy space, we conceive of a few policies, each of which require some input and each of which provide some payoff to all actors.[7]

As before, we conceive of three actors, the principal P, agent A, and constituency/clientele C. Suppose that they play a multi-round repeated game in which the following stage game is played. We add the possibility that P is motivated by re-election , but our set-up departs from any precise specification of the incentives to which A and C respond.

(a) A has a choice. She can implement the existing status quo policy q, which produces known finite utility $f(q)$ for P, A, and C.

Or A might decide to invest a positive amount α, an amount subtracted from her utility function, to attempt to produce a high-quality policy p. The high-quality policy p yields $f(p)$

[6] This result is consistent with our belief that autonomy should concern control over policy implementation but not necessarily control over policy outcomes.

[7] Need to explain why this is a better approach.

utility for P, A, and C, an amount which is known to all of them. These payoffs $f(q)$ and $f(p)$ could change every round, or be affected by a round-specific exogenous shock.

The probability that A produces p is π, where

$$\pi = g(\alpha), \frac{\partial \pi}{\partial \alpha} > 0, \frac{\partial^2 \pi}{\partial \alpha^2} < 0, \frac{\partial \pi}{\partial \alpha}(0) = \infty, \frac{\partial \pi}{\partial \alpha}(1) = 0 \tag{5}$$

(b) If A decides to invest, she makes a demand for a transfer of some amount $\geq \alpha$ from P. A knows the function that determines π, but can request more and keep the remainder for herself.

For this reason, A has difficulty communicating her request honestly to P such that she will be believed.

(c) To communicate honestly, A pays C some amount β where $\beta < \alpha_{t-1}$. We might think of this as service delivery, a side benefit or as some quid pro quo to reach out to allies and clients.

(d) All actors observe the transfer of β from A to C. P has a weakly increasing one-to-one correspondence from every possible β to the form of $\pi \equiv g(\alpha)$, which is private information. This mapping need not be accurate.

(e) P then decides on the amount of α to transfer to A. If the transfer is zero, A is only capable of implementing q. Her autonomy is thus compromised by the inability to address policy outside of a narrow, clearly defined mandate.[8]

Our framework supposes that the agency A can communicate her private information honestly to the client C, but cannot communicate it to the principal. There are multiple reasons to support this assumption. Agents might have professional relationships with their clients, might speak a common technical argot or share an understanding of complex policy, or might have many more repeated interactions with clients than they do with principals. Future work might investigate the ability of the agency to effectively communicate its needs to clientele and principals.

(f) If A makes the investment in expertise, Nature then determines with probability π whether A produces p.

(g) Finally, we introduce elections. After seeing $f(q)$ or $f(p)$, C votes on P in a simple referendum. If C votes to keep P, P realizes $f(p) - \alpha$ or $f(q) - \alpha$. If C votes P out, P receives $0 - \alpha$. The round ends with payoffs realized, and another round begins.

This model again provides autonomy as a relaitional dynamic, captured not in a single measure or quantity but in the ability of actors to interact with each other toward their preferred ends. Keeping relationships at the center of models of autonomy should provide for more interesting implications and predictions than do existing spatial models.

[8] This situation is consistent with our argument that autonomy requires capacity and resources.

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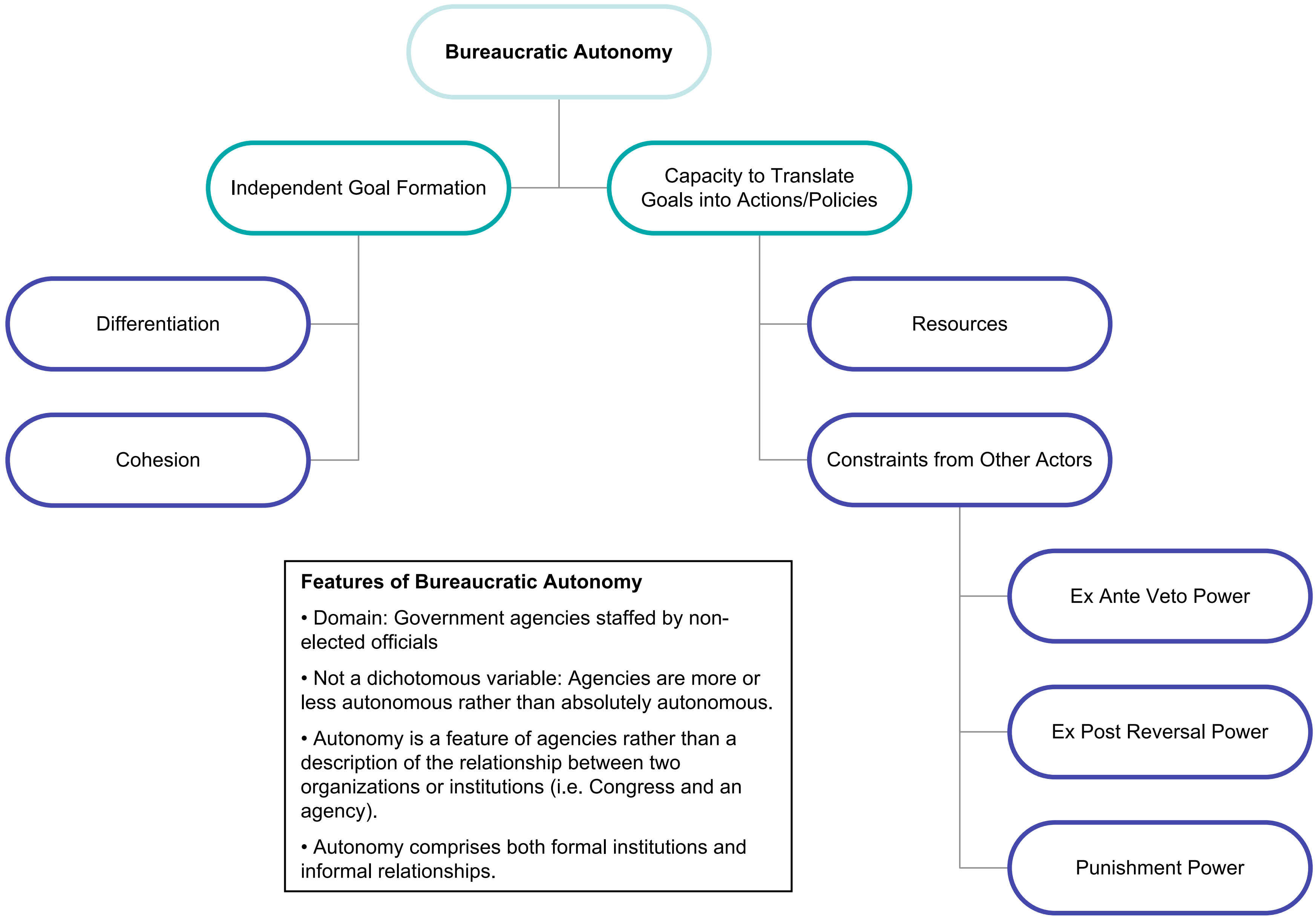
Bureaucratic Autonomy
Independent Goal Formation
Capacity to Translate Goals into Actions/Policies
Differentiation
Cohesion
Resources
Constraints from Other Actors
Ex Ante Veto Power
Ex Post Reversal Power
Punishment Power
Features of Bureaucratic Autonomy
• Domain: Government agencies staffed by non-elected officials
• Not a dichotomous variable: Agencies are more or less autonomous rather than absolutely autonomous.
• Autonomy is a feature of agencies rather than a description of the relationship between two organizations or institutions (i.e. Congress and an agency).
• Autonomy comprises both formal institutions and informal relationships.