

# Structure vs. Process

## Examining the Interaction between Bureaucratic Organization and Analytical Requirements

Stuart Shapiro, Visiting Scholar<sup>2</sup>

The George Washington University Regulatory Studies Center

### Abstract

Attempts by politicians to control bureaucratic decisions include both structural (how is the agency making the decision organized) and procedural (what rules must they follow when making the decision). But how do these procedures interact? This article examines the interaction between bureaucratic structure and one procedural control, the requirement that agencies conduct an analysis of their decisions prior to their issuance. I look at this interaction in the context of two types of analysis, cost-benefit analysis and environmental impact assessment. I interview 16 individuals in each field and draw from their experiences. The conduct of analysis is affected by where analysts are placed in agencies. In particular independence of analysts has a tradeoff. The more independent analysts are, the more likely they can challenge preferred decisions in their agency. But independent analysts are brought into decisions later and may have limited long term impacts on agency culture. Despite this tradeoff, analysts expressed a clear preference for independence. The interaction between different controls of bureaucratic behavior is a potentially fruitful line for further research.

---

<sup>1</sup> This working paper reflects the views of the author, and does not represent an official position of the GW Regulatory Studies Center or the George Washington University. The Center's policy on research integrity is available at <http://regulatorystudies.columbian.gwu.edu/policy-research-integrity>.

<sup>2</sup> Stuart Shapiro is a Visiting Scholar at the George Washington University Regulatory Studies Center and Professor and Director of Public Policy Program at Rutgers University's Bloustein School of Planning and Public Policy.

## Introduction

Political attempts to control the decisions of agency officials take many forms. Some of these forms have been termed “procedural;” by forcing agencies to follow certain procedures when making decisions politicians hope to increase their ability to oversee those decisions. Other ones can be termed “structural;” by organizing the bureaucracy in a particular way, important decisions will be more or less likely to rise to the level of political decision-makers. All of these controls can be (and have been) described as attempts by political leaders to solve the principal-agent problem presented by the policy-making authority of bureaucratic agencies. Often many of these controls on bureaucratic actions are placed on agencies simultaneously. This study is an attempt to look at the interaction between these controls.

In particular, I look at the effect of structure on one particular procedural control: the requirement that agencies analyze the impact of their decisions prior to enacting them. The National Environmental Policy Act<sup>3</sup> of 1970 required agencies to conduct environmental impact assessments prior to proceeding with decisions affecting the environment. In 1981, President Reagan required agencies promulgating regulations to conduct Regulatory Impact Assessments (RIAs) that included measurements of regulations’ anticipated costs and benefits.<sup>4</sup> This trend toward greater use of analysis continued and grew stronger under Presidents Clinton, Bush, and Obama. And outside the federal arena, many states have implemented both environmental-impact-assessment and cost-benefit-analysis requirements (Shapiro and Borie-Holtz 2014).

As long as there have been requirements for analysis, there have been efforts to understand how (if at all) those requirements influence government decisions. The conclusions of many of these assessments have reflected frustration by advocates of analysis. Scholars have criticized environmental-impact statements since they generate “little useful information and produce a work product too late in the decision-making cycle to influence the agency’s course of action” (Karkkanien 2002, p. 906). Cost-benefit analysis similarly has been criticized as having a limited impact (see e.g. Hahn and Tetlock 2008).

But sometimes analysis does influence policy decisions (Shapiro 2016). I argue that one of the factors that plays a role in the extent to which analysts exercise influence is the structure of the organization in which they work. But the effect of this structure is not completely straight forward. I spoke with more than 30 analysts with experience conducting or reviewing thousands of analyses. The analysts were roughly evenly divided between economists who conduct cost-benefit analyses and environmental analysts who undertake environmental impact assessments.

---

<sup>3</sup> 42 U.S.C. §§4321-4370h

<sup>4</sup> Executive Order 12291. See Federal Register 1981 58 FR 51735.

As one might expect, I find that the more independence that analysts are given, the more they are free to present analyses that challenge the preferred policy choices of their agencies. Although this is a positive impact of independence—from the perspective of advocates of analysis—structural separation does come with a cost. Analysts in free-standing organizational units have to fight more to be brought into decisions while the decisions are still ripe to be changed. There are also other complicating factors such as the use of contractors to conduct analysis which may muddy the effects of independence and effects of organizational structure on agency culture (independent analysts may be less able to make analysis a part of how the agency systematically thinks about policy problems).

The structure of an organization determines what information possessed by that organization is brought to bear on key decisions (Daft and Lengel 1986). As one critical intent of analysis is to ensure that certain information is presented to decision-makers, it is not surprising that the structure of an organization can assist or impede this role. This relationship between bureaucratic structure and the role of analysis also raises the question of whether organizational design of government agencies also affects the effectiveness of other procedural attempts by elected officials to control their bureaucratic agents.

This article proceeds as follows. In the next section I review the political science literature on the role of bureaucratic structure and process and discuss how it pertains to analytical requirements. Then, I describe my methodology for the interviews. I move on to summarizing the results of the interviews I conducted and then, finally, offer concluding thoughts.

## **Bureaucratic Structure and Process**

The agencies of the executive branch have been tasked with making policy decisions since the dawn of the Republic. Initially limited at first, their policy-making role increased with the creation of the Interstate Commerce Commission in 1887 and gathered steam with the Progressive Era and President Franklin Roosevelt’s New Deal. Finally, with the passage of statutes such as the Clean Air Act, the Occupational Safety and Health Act, and many others in the late 1960s and early 1970s, agencies’ policymaking power expanded even more (Eisner 2000). Now it included not only “economic regulation”—decisions about prices, quantities, or industrial structure—but also what is commonly known as “social regulation”

As the policymaking role of bureaucratic agencies grew, political scientists began to explore the factors that influenced their decisions. The issue of political influence on bureaucratic decisions has long been cast as a principal-agent problem. Political principals wish to ensure that the decisions made by their bureaucratic agents comply with the preferences of the elected officials. A vast literature exists on the varied means that the President and Congress use to solve this problem (see e.g. Wood and Waterman 1991, 1993; McCubbins, Noll and Weingast 1987, 1989, Macey 1992) and how agencies react to the oversight of multiple principals.

In this article, I focus on two of these means of control. Structure and process are both tools that political principals can use to control bureaucratic agents. Both are covered extensively in the literature but occasionally they are conflated. In this article, I refer to structure as the organizational design of the bureaucracy reporting to the decision-maker. Is it hierarchical? Is it organized by function or by policy area? How many competing views does the decision-maker hear? Procedural controls are the rules that the bureaucracy must follow when making a decision. Do they have to get public input before making a decision? Do they need to consult particular parties or hold a negotiation among affected interests? Or in the case examined in this paper, do they need to conduct an analysis of various policy options as part of the decision-making process?

## **Bureaucratic Structure**

As far back as Gulick (1937), there was a recognition that bureaucratic structure could play a role in policy outputs (Egeberg 1999): Gulick realized that choices for structuring public organizations were myriad, and that each had a definite implication for the outputs of those organizations. All of the parties involved in a policy decision (Congress, the President, winning and losing interest groups, and the bureaucracy) therefore have an interest in how the agency that makes that decision is structured. And the battle over structure never ends as losing interest groups pressure new elected officials for changes in structure that will allow them to reverse or at least mitigate previous losses (Moe 1990b).

Structure is particularly important because it plays a determinative role in what information gets to the decision-maker (Hammond 1993). The shape of an organization has been described as ameliorating or absorbing uncertainty (Rudalevidge 2005) or equivocality (Daft and Lengel 1986). Every policy decision is rife with uncertainty, the components of the uncertainty that rise to the President or the agency head depend on the organizational structure beneath him/her. Hammond and Thomas (1989) argue that the structure of a hierarchy inevitably affects the outputs of an organization, there is no such thing as a neutral hierarchy.

Numerous other scholars have examined particular impacts of bureaucratic structure on policy decisions. Wood and Waterman (1991) find that agency reorganizations can affect policy outcomes and that more centralization leads to more executive control over bureaucratic decisions. Carpenter (1996) notes that greater hierarchy within a bureaucracy can lead to slower reaction to attempts at political control through budgeting. Independence of an agency decreases the bias inherent in the information the agency provides to political leaders. This benefit of independence is greatest in mature democracies (Pataconi 2009). There are two dimensions of agency independence, the job security of the politically appointed leaders of the agency, and the right of the agency to make decisions without being reversed (Sellin 2015). Just as an agency can have varying degrees of independence, so can offices (such as an economic analysis office)

within an agency. This independence will most likely be reflected in the ability to present one's analysis to decision makers unfiltered.

Who decides on the structures of federal agencies? Moe (1990) focused on the role of the president in determining the structure of the organization underneath him,

the president can make lots of important structural choices *on his own* [emphasis in the original]... As a result presidents are the only players who are motivated to create a unified, coordinated, centrally directed bureaucratic system. (Moe 1990a pp 236-37).

Presidents are primarily interested in using structure to ensure their control of the bureaucracy (Moe 1990b). To do this, they generally prefer centralization of decision-making (Moe and Wilson 1994).<sup>5</sup>

And the President has frequent opportunities to act on these preferences. When Congress creates an agency, the President and his appointees are often left with the task of designing the agency. Congress has also given the President re-organization authority. On some occasions, the President himself creates the agency which obviously leaves him also with the task of designing it. Finally, Congress may simply pass a policy and ask the executive branch to implement it: (Lewis 2003).

Those within the bureaucracy also have preferences regarding structure. These preferences are likely to be informed by their more general motivations, which have long been the subject of controversy. Unlike private sector actors, there are few metrics (profit, productivity) that can be meaningfully used to gauge their performance and hence be assumed to motivate public employees (Moe 1984). As a result, scholars have argued that they are motivated by personal ideology (Gailmard and Patty 2007), job security (Downs 1967) mission (Wilson 1989), or maximizing their budgets (Niskanen 1974). The motivation of different bureaucrats has implications for how they interact with each other in the production of public policy decisions. Moe (1990b) argues that bureaucrats will prefer structures that better insulate themselves from political influence: i.e., “the bureaucracy does not want to be controlled.” (Moe and Wilson 1994, p. 19).<sup>6</sup>

Scholars examining international public organizations have focused on the actual policy impacts of different structural choices. Egeberg (1999) reviews the literature, largely centered on

---

<sup>5</sup> This has also resulted in the increase in hierarchies (particularly at the political level) in federal agencies (Light 1995).

<sup>6</sup> But Moe also argues that their preferences will be secondary in importance to those of the politicians and interest groups who initially designed the agency.

northern Europe, and highlights particularly the impacts of horizontal and vertical specialization. Separating units horizontally leads to a higher probability of inter-unit conflict, potentially significant enough to require engagement by higher levels of the agency. Placing specialized units lower in a vertical hierarchy insulates them from political pressures, but makes it harder for them to get attention from higher-level decision-makers. While this organizational choice gives analysts more insulation from political leaders, it also carries a risk that their criticisms of policy choices will go unheard by those who make the final decision.

The most thorough models on the impact of organizational structure on decisions have been done by Thomas Hammond. He shows how a variety of organizational structures produce different outputs depending on how the units of the organization report and relate to each other. For example, by influencing what choices make their way up to the leadership of the organization, structural choices can encourage strategic behaviors by subordinates in the organization wishing to advance their policy preferences. Additionally, separating out a particular constituency makes it more likely that the perspective preferred by this constituency will rise to the attention of agency leadership (Hammond 1986).<sup>7</sup> For analysts, this sort of separation might increase the chances that their challenges to programmatic decisions will be heard. Even if each organizational unit is behaving sincerely, slight changes in which units report to which managers lead to different policy choices. If one adds the possibility of strategic behavior on the part of the organizational units, then the impact of structure increases (see Figures 1-7 throughout Hammond's article for examples of differing structures leading to differing outcomes (Hammond 1986)).

## Processes for Control of the Bureaucracy

The work on procedural control of the bureaucracy is also particularly well developed. It tends to focus on Congress as the principal attempting to influence bureaucratic agents. The procedures that Congress mandated bureaucrats follow were seen as a form of “deck stacking,” whereby legislators ensured that the interest group environment faced by bureaucratic decision-makers resembled the one faced by Congress. Recreating this environment would increase the likelihood that the decisions made by bureaucrats would mirror the preferences of the coalition in the legislature that put the procedures into place (the “enacting coalition”) (McCubbins, Noll, Weingast 1987, 1989).<sup>8</sup>

---

<sup>7</sup> Bendor, Taylor, and Van Gaalen (1987) also make this point, “A political executive can strengthen his or her hand by having more than one subordinate generate options,” (p. 874).

<sup>8</sup> Occasionally these works would also mention bureaucratic structure but much of this literature did not differentiate between process and structure. Requirements that agencies conduct analysis, solicit input on decisions, or invite particular constituencies into the decision-making process are described both as procedural and structural in the literature. This had the effect of obscuring differences between structure and process.

The role of procedures created by political principals in affecting the decisions of bureaucratic agents is the subject of considerable debate. Horn and Shepsle (1989) doubted that such procedures would be effective because they would inevitably be controlled by future political actors whose preferences may differ from those of the enacting coalition that created the procedure. Models on the use of procedural controls were put forward to explain their effectiveness and their limits (see e.g. Bawn 1995; Epstein and O'Halloran 1999).

There is also considerable literature examining the role of particular procedures put in place by the legislative and executive branches. Literature on requirements for public participation in rulemaking, requiring negotiated rulemaking, and requiring agencies to analyze the impacts of their decisions are all very mixed in their assessments of the effectiveness of these procedures.

It is the last of these procedures that I focus on in this article. Congress mandated that an agency conduct environmental impact assessments in the National Environmental Policy Act (NEPA) in 1970. President Reagan, and later Congress and President Clinton required cost-benefit analysis as a part a broader Regulatory Impact Analysis requirement for regulations. Both benefit-cost analysis and environmental-impact analysis rely upon the comparison of policy alternatives. In both cases, the enacting coalition (a Democratic Congress in the case of NEPA and a Republican president in the case of cost-benefit analysis) put in place a procedure that they hoped would affect future decisions. Finally, for both forms of analysis, supporters have expressed disappointment that the analytical requirements have not affected decisions as much as their designers had hoped (Karkkainen 2002; Hahn and Tetlock 2008). How has the structure of the bureaucratic organizations implementing these requirements affected the role analysis plays in decisions?

### **Intersection of Structure and Process<sup>9</sup>**

The intersection between structure and procedural controls has received little attention. In one notable exception, Whitford (2002) argues that proponents of procedural controls implicitly assume that structural choices are secondary and if political principals set the incentives correctly then the organization of the bureaucracy is irrelevant. In contrast he finds that one structural choice in one agency, decentralization at the Nuclear Regulatory Commission undermines the preferences of political overseers.

---

<sup>9</sup> Whether bureaucratic structure, procedural requirements, or even the personality of an agency leader can make a difference in policy choices depends on the political environment of the agency (Hammond and Knott 1999). Hammond and Butler (2003) in a model comparing parliamentary and presidential democracies find that the decision-making structure of a democracy determines outcomes only in conjunction with the preferences and assignments of the relevant actors.

In the case of analysis this is a particularly important oversight. Analytical requirements specify that decisions must take into account certain categories of information (costs, benefits, environmental impacts etc.). Analytical requirements can be seen as a way of ensuring that certain information comes in front of the decision-maker (and the public).<sup>10</sup> However, there is a limit to the information that a decision-maker can process and an organizational structure can determine which information makes it up to the top of the organization chart (Daft and Lengel 1986). A bureaucratic structure can facilitate the result of a policy analysis floating to the top of an organization or it can hamper it by affecting the nature of the comparisons between policy alternatives (Hammond 1993).<sup>11</sup>

The purpose of this paper is to add insight regarding which of these two outcomes is more likely to occur. If one sees a primary purpose of analytical requirements as facilitating oversight by political actors through the provision of information, then this question is also important to issues of political oversight of agencies.

A small number of scholars have grappled with the particular relationship between the use of analysis and bureaucratic structure. Taylor (1984), in a study of how two agencies implemented environmental impact analysis, notes the tradeoff between giving analysts an independent voice and integrating them closely with political decision-makers:

we do not want the analysts to be integrated and influential at the cost of being co-opted, nor do we want them to be so autonomous as to be irrelevant to policy decisions. (Taylor 1984 p. 94).

He goes on to note that the analysts themselves preferred independence:

The analyst's greatest fear was dispersal into other functional units. Dispersal would decrease their influence, put them under closer supervision, reduce their specialization, and hinder their ability to allocate their resources according to their own priorities... (Taylor 1984, p. 110).

Meltsner (1976) found that the number of layers of review that analysts must pass their work through made a difference in the efficacy of policy analysis broadly. He found that many of his interview subjects had grown frustrated at agencies because of the many layers of review that their work had to traverse before being seen by decision-makers. These layers of review varied

---

<sup>10</sup> The informational advantages of bureaucratic experts is seen as one of the principal challenges for their political principals to overcome in overseeing agency decisions (see e.g. Wood and Waterman 1994).

<sup>11</sup> Writing about private sector organizations, Daft and Lengel (1986, p. 559) note that, "The key factor in equivocality reduction is the extent to which structural mechanisms facilitate the processing of rich information." Applied to the role of analysis in policy decision-making, one could take this to argue for a structure in which analytical results are clearly put before all the relevant decision-makers in an agency.

from organization to organization. Williams (2008) also interviewed analysts—a dozen economists who worked on cost-benefit analysis of regulations—and recommended that economists be separated from the program offices whose work they were evaluating in order for their work to play a greater role. Finally, Adler and Posner (2009, p. 75) note:

the optimal bureaucratic structure for implementing CBA [cost-benefit analysis] is a difficult problem in institutional design... If there were comparatively more applied economists at agencies and agency culture were shifted in the direction of being more favorable toward CBA, that tool would be yet more effective in screening out regulations that reduce overall wellbeing and screening in regulations that increase it.

The limited literature available indicates that separation of analysts from the policy-making branches of government has the predicted attraction of endowing analysis with greater influence (Williams 2008, Taylor 1984). In the language of the literature on structure, independence makes it more likely that the information contained in an analysis makes it up the organizational chain to the key decision-makers. Following the model created by Hammond (1986) (and updating the work of Taylor who looked at two agencies and one type of analysis—environmental impact analysis), the key variable I look at is the autonomy of the analysts.

## **Methodology**

In order to gauge the relationship between analysts' organizational location and their impact on policy, I conducted focused interviews with two different types of analysts. I interviewed sixteen economists who conduct or review cost-benefit analyses of agency regulations, and sixteen analysts who conduct environmental impact assessments of agency regulations and projects.

Both groups of interview subjects consisted of high-level civil servants. The economists had spent time collectively at eleven different agencies.<sup>12</sup> As a group they had conducted or reviewed more than 700 economic analyses of regulations. The environmental-impact assessors had worked on or reviewed more than 1000 Environmental Impact Statements (EIS) or Environmental Assessments (EA).<sup>13</sup> They had also worked at a wide variety of agencies.<sup>14</sup>

---

<sup>12</sup> The Environmental Protection Agency (EPA), The Food and Drug Administration, the Occupational Safety and Health Administration, the Mine Safety and Health Administration, Consumer Product Safety Commission, and the Departments of Transportation, Homeland Security, Health and Human Services, Labor, and Agriculture.

<sup>13</sup> Under the National Environmental Protection Act, agencies conduct an Environmental Assessment of the potential implications of a government action. If the Assessment indicates that there are likely to be significant environmental impacts, the agency must then conduct an Environmental Impact Statement.

<sup>14</sup> Their experience included work with the EPA (which conducts few EIS' but reviews many of them), The Nuclear Regulatory Commission (NRC), the National Oceanic and Atmospheric Administration (NOAA), the

I identified the economists initially through personal networking. I identified the environmental impact analysts via a posting in a “LinkedIn” group for environmental impact assessment. With both types of analysts, I then identified further interview subjects through snowball sampling. The interview subjects were promised confidentiality—hence, interviewees’ names do not appear in this article. Such guarantees of confidentiality are standard in good qualitative research in order to ensure that interview subjects are comfortable speaking freely (Rubin and Rubin 2011). They are particularly important in this context, given that subjects were asked about government decisions made during their tenure with which they may have disagreed.

Interviews lasted 30 – 60 minutes and were part of a larger study on the role of analysis in policy-making. Interviews were conducted over the phone and over 90% of those I reached out to personally<sup>15</sup> agreed to participate in this study. Among the questions asked were questions on how the analysts reported within their agency, how the analysts would change their agency in order to be better heard, and whether the analysts could share examples of cases where their analysis made a difference in a policy and where policy-makers ignored their recommendations.

The political contexts of cost-benefit analysis and environmental impact assessments are quite different. In fact, one might describe them as nearly opposite of one another. Cost-benefit analysis has long been opposed by supporters of regulation such as environmental advocates and advocated by business interests, typically the subject of regulation. The argument against cost-benefit analysis generally rests upon the premise that it delays decisions and is inherently biased against government actions to protect public health and the environment. Supporters of cost-benefit analysis argue against this bias and tout its benefits in improving the efficiency and effectiveness of government regulations (Shapiro 2016).

In contrast, environmental impact assessment was championed by environmental groups as a way of ensuring that environmental concerns are made a part of government decisions that would otherwise ignore them (such as granting a permit to the Keystone pipeline or building a new dam). It is opposed by groups that stand to economically benefit from government projects (or the granting of government permits) who cite it as a source of delay in decisions and as biased against development (Shapiro 2016).

As such, understanding the dynamics surrounding these two types of analysis sheds light on whether the political context of analysis makes a difference in the effectiveness of analysis and whether structural impacts vary by political climate. As I describe below, the experience of the economists and the environmental impact assessors has much more in common than the political

---

Departments of Transportation, Interior, Agriculture, and Homeland Security, and several branches of the military.

<sup>15</sup> The Linked In Group for environmental impact assessment contains hundreds of members. I only reached out to those who responded to my solicitation.

context might suggest. While the interviews of these civil servants were wide ranging, they produced similar results regarding the relationship between where my interview subjects found themselves within the bureaucracy and their perceptions of their own effectiveness. There were also a few differences which I will note below.

## **Interview Findings**

There were areas of both consistency and inconsistency across the two types of analysts I spoke with. The economists focused a bit more on their organizational placement than the environmental impact assessors, and the issue of the role of contractors was more prevalent in the environmental impact assessment world. Economists also have external allies in the Office of Information and Regulatory Affairs (OIRA)<sup>16</sup> that play a role in determining the effectiveness of analytical requirements. By and large, however, both types of analysts largely agreed that a greater degree of independence from program offices enhanced their ability to influence policy decisions. This did come with several caveats however which I will detail below.

### **Economists and The Advantages of Independence (and one Disadvantage)**

One economist that I spoke with summed up the problem with placing economists in the part of the organization that makes the initial policy decision:

“As long as program people don’t write performance appraisal of economists, it’s ok. If they [the program office] do, they don’t have to say they want a particular outcome but people aren’t stupid. The lack of independence at the agencies is a problem, I know people all over government and they have the same problem.”

If an economist fears for her career because her performance will be evaluated by the person whose policy preferences she is asked to evaluate, she will be less likely to criticize those preferences. As another economist plainly put it, “It’s very difficult to conduct a BCA if your boss wrote what you are analyzing.”

Placing an analytical office outside the program office avoids these problems. As one interview subject put it, “it comes up here and we can be the bad guys.” The economists at the analytical office can voice criticisms of a program’s preferred policy much more freely than their colleagues within the program. One interview subject even went so far as to say that it would be ideal to place economists in an entirely different agency.

---

<sup>16</sup> OIRA is a sub-unit of the Office of Management and Budget (OMB) which reviews significant regulations and the regulatory impact analysis which accompanies them. OIRA is generally staffed by economists and those sympathetic to cost-benefit analysis as means for evaluating policy.

To some degree this is the role of OIRA. Another advantage of independence within the cost-benefit analysis world is that the independent office builds a relationship with OIRA and is seen within the agency as those who can interpret what OIRA will approve and what they won't. Independent economists use this to their advantage. One told me, "The biggest effect of OIRA is saying that it lets me say something like we are never going to get this regulation through them," and another said he tells his colleagues, "The rule never would have made it through OMB. It can't go out until it is leaner." The independent economists can play this role both because they have repeated interactions with OIRA, and because they "speak the economic language" of OIRA.

While the economists were nearly universal in citing independence from program offices as a key factor in their ability to speak "truth to power," they did cite one significant disadvantage. Decisions to initiate a possible regulation are often made within program offices. In these cases, the initial policy options are scoped out within the program office before involving anyone else, except perhaps agency lawyers. Economists named numerous instances when, by the time their independent office had been brought into the process of crafting a regulatory impact analysis, many of the key decisions had already been made.

One interview subject tried to put a number on the frequency with he and his colleagues were brought into a regulatory decision too late to make a difference, "In about 40 percent of the cases it is already decided." Another answered the question of when his office was involved by saying, "Typically it is after the agency has figured out what they want to do." Finally, a third described the battle to be brought into decisions before they are set in stone as, "...an ongoing campaign. We request to be brought in when people start saying we are going to write a regulation. It doesn't always work that way." All agreed that the earlier they were brought into a decision the more influence they could have.

The interviews with economists therefore highlighted a tradeoff in independence also noted by Taylor (1984). It allowed economists to speak freely but on some occasions too late to be heard. Why does this happen? Not all lines on an organizational chart are equally solid. Some parts of an organization control the information and can buttress their arguments well before others are brought in. However, it was clear that my interview subjects would have universally preferred independence despite the risks associated with that informational disadvantage. Their ability to provide an assessment of a policy that is independent of the policy's proponents to decision-makers seems to outweigh the risk of being brought into the process later.

### **Environmental Impact Assessors: A More Complicated Picture**

Environmental Impact Assessors agreed with the economists regarding the preference of independence. The interview subjects did refer much more often, however, to the use of teams to make policy decisions. When EIAs were in a separate office, they were nonetheless able to have

a strong influence on policy because they were included on teams run out of program offices. This was particularly prevalent in agencies like the military and the Forest Service where many decisions were pushed down to the local level. One person I spoke with said, “We are regionally based. There is a lot of decision-making authority pushed out into regions.”

Numerous interview subjects talked about their integration into decisions in terms of an agency planning process. One Forest Service employee said, “Planning is done where NEPA is done. So here is a chance to put NEPA and planning together and they do a good job of it.” Another person who had experience in the military said of environmental impact assessors, “they were very much a part of planning process.” Finally, one engineer said, “Environmental planners and consultants were in the room. There was integration from the beginning.”

As decisions became higher profile however, they tended to be made in the national offices of agencies—as an interview subject said, “bigger (or interagency) decisions get kicked upstairs.” And in these cases, the role of environmental impact assessors started to look more like the experience of the economists. Some talked about being brought into project decisions after decisions were made. One said, “How could anyone put NEPA at front when it is the engineers that have [already] calculated the need for the project? [i.e., already concluded that the project is necessary]” and another referred to the myths of organization charts: “the organization chart shows something different, NEPA in one corner, the decision maker was connected. That is on paper. The myths you hear over and over that decision is made and NEPA justifies it is not a myth.”

So, it appears that in lower profile cases, environmental impact assessors with separate reporting structures were integrated into decision-making teams and played a significant role in mitigating the environmental impacts of projects. In higher profile cases, the documents are often used to justify decisions that are already made rather than assist in making decisions, because environmental impact assessors are brought in after the agency has settled on its policy preference.

There are two other factors in the role of environmental impact analysis related to organizational structure that did not come out in the interviews with practitioners of cost-benefit analysis.

The first is the role of organizational culture. Organizational culture is a significant factor in the broader public management literature (see e.g. Wilson 1989) but largely escapes the attention of modelers of the administrative process (for good reasons: modeling culture is exceptionally challenging). As I spoke to environmental impact assessors, it was clear that the degree to which environmental analysis had permeated the cultures of their agencies varied, and that there were important impacts of culture on decision-making.

One of my interview subjects described the Forest Service as having a culture centered on planning. This made it easier for environmental impact assessors to assert their voice in decision-making, their job after all was to “plan” for the environmental consequences of Forest Service decisions. The opposite perspective was voiced by someone at a branch of the military; of his organization, that subject opined:

“They need to decide how much of they want it to be a part of the organizational culture. Right now it is lower down on the list... It is pigeonholed into this document creating thing but it should be more an integrating process.”

By contrast, someone with experience with a different branch of the military said that military culture actually abetted the adoption of legal requirements such as NEPA, “The culture is important. You take an oath to uphold and support the law. We aren’t looking at ways to get around it, even if we don’t agree.”

Environmental impact assessment is required by statute, unlike cost-benefit analysis.<sup>17</sup> It is also required for a much broader class of decisions than cost-benefit analysis. This has meant, in some organizations, that it has much more deeply permeated the organizational culture than the practice of cost-benefit analysis. In these organizations, such as the Forest Service, it may have an effect on decision-making that transcends the usual effect of organizational structure. If individual offices understand the need for analysis, an independent voice may not be needed to voice analytical objections to preferred policies. However, adoption of NEPA as a cultural practice varied across agencies, so even putting a requirement in statute is no guarantee of changing agency culture.

The second factor that was highlighted in the interviews with environmental impact assessors was the role of contractors. Contractors open up a whole other dimension to the question of independence from decision-makers. If contractors are managed by the program office, then contractors (presumably who want to be the agencies to be repeat customers) are quite likely to produce results that line up with the agency preferences. However, it is unclear whether such contractors would be more dependent than an analyst employed by the office, whose position is supervised by decision-makers with clear preferences. If contractors are hired by an independent office, then it is reasonable to assume that their work will be at least as independent as the office that hired them.

The interviews made clear that the contracting played a significant role in the development of environmental assessments. This role did not shed much light on the question of independence of analysts but one subject noted, “if it is done in-house it will be simpler and better integrated into

---

<sup>17</sup> For some small portion of regulatory decisions, cost-benefit analysis is required under the Unfunded Mandates Reform Act.

decisions.” Better integrated could mean “more influential,” or it could mean “more in agreement with the preference of the agency.”

Economists also use contractors to conduct cost-benefit analyses, but the issue of contracting rarely came up in discussions with them. To the degree that contractors are used to conduct analysis for the government of any kind, however, it would appear that the issue of contracting is subordinate to the issue of who does the contracting. Eventually the product of a contractor must be fed into an agency decision-making process. Whether that is fed into an office that has a preference for a particular alternative or one whose position is to challenge those preferences may make a bigger difference than the fact that the analysis was conducted by a contractor.

## Conclusion

Questions of how political principals can influence bureaucratic agents have long been pre-eminent in the political science literature. One solution to this problem is the use of procedures to ensure that government agencies make decisions in a manner that is preferred by their political overseers (McCubbins, Noll, and Weingast 1987). Over the past fifty years, one of the most prominent of these procedures has been the requirement that agencies engage in some type of analysis prior to making a decision. Two examples of analytical requirements are cost-benefit analysis and environmental impact analysis.

Another manner in which political principals can influence bureaucratic decisions is through organizational design (Hammond 1986). Scholars that have examined the role of bureaucratic structure, have found that the choice of structure can have profound implications for the choice of policy (Hammond 1986). Organizational structure influences the flow of information to decision-makers. Few have looked at the interaction between these two modes of control. How have structural means of influence affected the impact of procedural controls?

The purpose of this article was to look at the interaction between these two modes of control. Procedural controls are put in place by enacting coalitions, which often include a legislative body (Horn and Shepsle 1989). Structural controls—the design of the bureaucracy in particular—are almost always implemented by the executive branch, and can be modified by new executives and their political appointees (Lewis 2004, Light 1995). Structural controls can undermine the goals embodied in procedural controls or facilitate their achievement. This is particularly important for requirements for analysis. Analytical requirements are enacted in part with the intent of ensuring that the information contained in the analysis is placed before the ultimate decision-maker. Organizations can be structured to direct the information flow in such a way that the results of analysis are obscured before this decision-maker sees it.

In speaking with economists who conduct required cost-benefit analyses, and environmental experts who conduct environmental-impact assessments, it was clear that their organizational

environments made a difference in their influence. Being placed under the supervision of advocates for a policy may have ensured earlier involvement in decisions, but it also compromised analysts' ability to criticize those policies. If one wants analysts to serve as a check upon mission-driven agency officials (as many advocates of analysis do), then this structural choice presents a significant concern. This is true whether the analysts are trying to make regulations more economically efficient or projects more environmentally sensitive.

As one might expect, organizational independence helps the cause of analysis. Perhaps less expected may be that there are complicating factors as well. Placing analysts in an independent office may make it less likely that they are involved in decisions while there is still time to influence them. Greater integration of analysts into an organization can inculcate analysis into agency culture. Over the long run, this may have the impact of affecting all decisions, which may give analysts more power than being able to criticize individual agency decisions.

Academic discussion of the impact of analysis has been largely astructural. But we should not ignore the structure of the organization implementing any procedural control. Future assessments of current and proposed procedural controls should pay close attention to the structure of the agencies and to the location in that structure of the people responsible for the controls' implementation. While procedures are often (though not always) imposed by legislatures, the structure of agencies is most frequently determined by the executive and her appointees (Light 1995). If structure can trump procedures, this has implications for which principals can most effectively oversee bureaucratic agents.

This article also highlights the fact that the myriad attempts to control bureaucratic actors may interact with each other and that these interactions require greater attention in the literature than scholars have given them. For example the requirement for solicitation of public input on agency regulatory proposals may also be affected by structure. Public comment is another source of information for decision-makers. As such it may be important where in an organization public comments are processed and responded to, and this may play a role in whether such comments change regulatory decisions. Multiple attempts by political principals to control bureaucratic agents likely interact in important ways and this is likely to be a fruitful area for further research.

## References

- Adler, Matthew, and Eric A. Posner. "New foundations of cost-benefit analysis." *Regulation & Governance* 3, no. 1 (2009): 72-83.
- Bawn, Kathleen. "Political control versus expertise: Congressional choices about administrative procedures." *American Political Science Review* 89, no. 01 (1995): 62-73.
- Jonathan, Bendor, and Taylor Serge. "Van Gaalen Roland." *Stacking the Deck: Bureaucratic Missions and Policy Design*,. *American Political Science Review* 81 (1987): 873-96.

- Carpenter, Daniel P. "Adaptive signal processing, hierarchy, and budgetary control in federal regulation." *American Political Science Review* 90, no. 02 (1996): 283-302.
- Daft, Richard L., and Robert H. Lengel. "Organizational information requirements, media richness and structural design." *Management science* 32, no. 5 (1986): 554-571.
- Downs, Anthony *Inside bureaucracy*. (Boston: Little, Brown, 1967).
- Eisner, Marc Allen. *Regulatory politics in transition*. JHU Press, 2000.
- Egeberg, Morten. "How bureaucratic structure matters: An organizational perspective." (2003): 116-126.
- Epstein, David, and Sharyn O'halloran. *Delegating powers: A transaction cost politics approach to policy making under separate powers*. Cambridge University Press, 1999.
- Gailmard, Sean, and John W. Patty. "Slackers and zealots: Civil service, policy discretion, and bureaucratic expertise." *American Journal of Political Science* 51, no. 4 (2007): 873-889.
- Gulick, Luther. "Notes on the Theory of Organization." *Classics of organization theory* 3 (1937): 87-95.
- Hammond, Thomas H. "Agenda control, organizational structure, and bureaucratic politics." *American Journal of Political Science* (1986): 379-420.
- Hahn, Robert W., and Paul C. Tetlock. "Has Economic Analysis Improved Regulatory Decisions?." *Journal of Economic Perspectives* 22, no. 1 (2008): 67-84.
- Hammond, Thomas H., and Christopher K. Butler. "Some complex answers to the simple question 'Do institutions matter?' Policy choice and policy change in presidential and parliamentary systems." *Journal of theoretical politics* 15, no. 2 (2003): 145-200.
- Hammond, Thomas H., and Jack H. Knott. "Political institutions, public management and policy choice." *Journal of Public Administration Research and Theory* 9, no. 1 (1999): 33-86.
- Hammond, Thomas H., and Paul A. Thomas. "The impossibility of a neutral hierarchy." *Journal of Law, Economics, & Organization* 5, no. 1 (1989): 155-184.
- Horn, Murray J., and Kenneth A. Shepsle. "Commentary on" Administrative arrangements and the political control of agencies": Administrative process and organizational form as legislative responses to agency costs." *Virginia Law Review* (1989): 499-508.
- Karkkainen, Bradley C. "Toward a smarter NEPA: monitoring and managing government's environmental performance." *Columbia Law Review* (2002): 903-972.
- Lewis, David. *Presidents and the politics of agency design: Political insulation in the United States government bureaucracy, 1946-1997*. Stanford University Press, 2004.
- Light, Paul. *Thickening government: Federal hierarchy and the diffusion of accountability*. Brookings Institution Press, 2011.
- Macey, Jonathan R. "Organizational design and political control of administrative agencies." *JL Econ. & Org.* 8 (1992): 93.
- McCubbins, Mathew D., Roger G. Noll, and Barry R. Weingast. "Administrative procedures as instruments of political control." *Journal of Law, Economics, & Organization* (1987): 243-277.
- McCubbins, Matthew D., Roger G. Noll, and Barry R. Weingast. "Structure and process, politics and policy: Administrative arrangements and the political control of agencies." *Virginia Law Review* (1989): 431-482.
- Meltsner, Arnold J. *Policy Analysts in the Bureaucracy* Berkeley Ca: University of California Press 1976.

- Moe, Terry M. "The new economics of organization." *American journal of political science* (1984): 739-777.
- Moe, Terry M. "Political institutions: The neglected side of the story." *Journal of Law, Economics, & Organization* (1990): 213-253.
- Moe, Terry M. "The politics of structural choice: Toward a theory of public bureaucracy." *Organization theory: From Chester Barnard to the present and beyond* (1990): 116-153.
- Moe, Terry M., and Scott A. Wilson. "Presidents and the Politics of Structure." *Law and Contemporary Problems* (1994): 1-44.
- Niskanen, William A. *Bureaucracy and representative government*. Transaction Publishers, 1974.
- Pataconi, Andrea. "On the (Mis-) Use of Information for Public Debate." *Available at SSRN 1455824* (2009).
- Rudalevige, Andrew. "Presidential Hierarchies and Decision Making: The Interaction of Organization and Information." *Presidential Studies Quarterly* 35 (2005): 336.
- Selin, Jennifer L. "What Makes an Agency Independent?." *American Journal of Political Science* 59, no. 4 (2015): 971-987.
- Shapiro, Stuart. *Analysis and Public Policy: Successes, Failures, and Directions for Reform* Edward Elgar Publishing 2016.
- Shapiro, Stuart, and Debra Borie-Holtz. *The Politics of Regulatory Reform*. Vol. 6. Routledge, 2014.
- Taylor, Serge. *Making bureaucracies think: The environmental impact statement strategy of administrative reform*. Stanford University Press, 1984.
- Whitford, Andrew B. "Decentralization and political control of the bureaucracy." *Journal of Theoretical Politics* 14, no. 2 (2002): 167-193.
- Williams, Richard. "The influence of regulatory economists in federal health and safety agencies." *Mercatus Center at George Mason University, Working paper* (2008).
- Wilson, James Q. *Bureaucracy: What government agencies do and why they do it*. Basic Books, 1989.
- Wood, B. Dan, and Richard W. Waterman. "The dynamics of political control of the bureaucracy." *American Political Science Review* 85, no. 03 (1991): 801-828.
- Wood, B. Dan, and Richard W. Waterman. *Bureaucratic dynamics: The role of bureaucracy in a democracy*. Westview Press, 1994.