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To my village

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Abstract

Most discussions of the policy process begin with and focus on the legislative branch, as this is the institution most directly responsible for crafting policies. Many also bring the chief executive or interest group lobbyists into the equation through the study of executive orders and campaign contributions. In contrast, very few of these types of discussions mention the bureaucracy as an actor in this process. This project strives to rectify this oversight by investigating the role of bureaucratic agencies in directing public policy, most notably in the early stages of problem definition and agenda setting. In particular, this project views bureaucratic agencies as key providers of information on which legislation is based.

To support this argument, I draw on a number of academic literatures, including theories of attention dynamics, institutional friction, and higher education governance. At the nexus of these literatures lies the basis for the overarching theoretical argument made in this project: the influence of bureaucratic organizations on the policy process can be substantial, but is conditioned by the structural characteristics of the agency in question. This assertion is supported empirically by analyses of an original dataset drawn from the annual reports of higher education governance bodies and state legislation related to higher education in two archetypal states. The methodologies used include assessments of various distributional characteristics, correlations, and regression models.

The findings from these models demonstrate institutional structure can have a substantial impact on the agendas of bureaucratic organizations. A highly centralized organization is limited in its ability to attend to a broad array of substantive topics at

once, resulting in a narrower and more volatile agenda. This in turn leads to greater difficulty in influencing legislative debates. A less centralized organization, however, is better able to maintain attention on a large number of issues simultaneously. This allows an agency to have a broader and more stable agenda, facilitating greater influence on subsequent bill introductions in the state legislature.

Overall, the results demonstrate support for the central hypothesis in that the decentralized organization (the Illinois Board of Higher Education) had tangible impacts on its state's legislature while the centralized organization (the Kansas Board of Regents) did not. These findings deepen our understanding of the impacts of bureaucratic structure on agency outputs and suggest that bureaucrats can have a broader role in the policy process than often recognized through the information they provide to legislators. Additionally, this study connects theories of agenda setting and problem definition to the state level and produces a dataset for future exploration of similar questions.

Chapter One: Introduction

In describing how a bill becomes a law, most scholars do not begin with a discussion of the bureaucracy. Instead, they tend to focus on the congressional processes of committee assignment, floor debate, and roll call voting. While all of these elements are undoubtedly essential parts of the legislative process, they only capture the latter half of the journey. The true beginning of the policymaking process is not the introduction of a bill, but the emergence of an idea or policy proposal that will eventually make up the legislation. Broadening the definition of the policy process in this way enables a fuller understanding of the origins of laws rather than simply the marginal changes that occur through the legislative process. It also creates an opportunity to consider the involvement of actors other than legislators, including any bureaucratic agencies surrounding a substantive policy area.

For these reasons, I contend that discussions of the policy process might do well to start in venues other than the legislature. One of the key venues that should be brought into the conversation is the bureaucracy, which is often underappreciated as a policymaking venue. Government agencies play a much larger role in our nation's governance than most people realize, one that goes far beyond the implementation and policy feedback roles typically ascribed to them. Instead, these organizations are integral to the early stages of the policy process, especially problem definition and agenda setting.

Yet scholars have done little to understand the impact bureaucratic agencies have in practice[1].

This is the question that ultimately motivated this project, which seeks to determine whether and to what extent bureaucracies impact legislative agendas. In doing so, agencies are not only altering the discussions which take place on chamber floors, but are also shaping the content of bills that are introduced and the laws that are eventually adopted. These influences can in turn have substantial impacts on public policy and their outputs. Accordingly, the role of bureaucratic agencies in the policy process is not a trivial one, meaning it should be included in our discussions of how public policy gets crafted.

The remainder of this chapter introduces the ways in which this project attempts to do so. The next section presents the research questions at the heart of this work and describes how they work together to provide a deeper understanding of the bureaucracy's role in problem definition and agenda setting. Following this section is a brief explanation of the setting used to answer these questions; namely, higher education policy at the state level. The second section also serves to connect these two elements by providing an overview of the data and research design used for the empirical analyses of the middle chapters. Section three includes a detailed discussion of the significance of the research questions and the implications the findings hold for both scholars and

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[1] Though little work has been done on this question to date, there is an emerging literature focused on these questions. See, for example, Baekgaard, Mortensen and Bech Seeberg (2018) and Workman (2015).

practitioners. Finally, this introductory chapter concludes with summaries of each of the chapters to follow.

Research Questions

The final research question of this project has already been introduced: to what extent do bureaucratic agencies influence legislative agendas? Before this question can be addressed, however, there are a series of smaller questions which must be answered. Most notably, an understanding of bureaucratic agendas themselves is a prerequisite for assessing their impact on the agendas of other organizations. Accordingly, a great deal of space in the pages to come has been devoted to this task. Specifically, I assess three major elements of bureaucratic agendas: the substantive topics they contain, the diversity among those topics, and the volatility of the discussions of the topics over time.

With regard to these questions, I focus on how they differ between bureaucracies operating under dissimilar institutional structures. Organizational structure has long been known to have a substantial impact on institutions, including playing a central role in the determination of their agendas (Hammond 1986; Moe 1995). Beyond this general level, however, little is known about the mechanisms through which this occurs. In light of this oversight, I focus on the degree of centralization present in an agency as an element that conditions its agenda and its ability to exert influence on the legislature. Centralization is a major factor in determining the amount of institutional friction encountered by an agency, which I anticipate will translate into tangible impacts on an agency's agenda.

The exploration of these impacts is framed in terms of three additional research questions. Two of these questions are addressed in Chapter Four and concentrate on the substantive issues which appear on bureaucratic agendas. I first ask how the content of agency agendas differ for centralized and decentralized organizations in terms of which topics are being discussed by the agency. Relatedly, I seek to determine whether organizational structure impacts the breadth and diversity of institutional agendas as well as the depth with which these institutions consider each topic. Following these analyses, I turn to a third research question: to what degree does the structure of a bureaucratic agency shape the volatility of the institution's agenda over time? This question recognizes that agendas are not static and incorporates the temporal aspect of governance.

Following these analyses, the overarching research question of this project is explored in Chapter Six—to what extent are bureaucratic agencies able to influence the agendas of legislatures? Specifically, I assess whether an agency's ability to wield this type of influence is conditioned by the characteristics of its own agenda and the information the agency is able to provide. In linking the agendas of bureaucratic agencies to their influence on the policy process, this research will enable a deeper understanding of these organizations and their operations. Furthermore, the research questions discussed in this project will provide insight into the various roles bureaucratic agencies play in the policy process, especially with regard to problem definition and agenda setting.

Empirical Approach

To obtain these insights, I focus on a single type of bureaucratic organization: higher education governance bodies at the state level. These entities exist in most states as a sort of liaison between the state government and the colleges and universities operating in the state. In this capacity, they serve a dual role as the primary oversight body for higher education as well as the major advocate for higher education to state policymakers. To fulfill their responsibilities, these governance agencies are headed by the State Higher Education Executive Officer (SHEEO), whose role is largely that of an agency director. Though the term SHEEO technically refers to the individual head of the agency, for ease of communication I use it more broadly throughout this project to refer to the agencies as a whole. The tasks performed by these agencies are broad, as SHEEOs are the primary agency for all matters related to higher education in the state.

While this type of agency is unfamiliar to many scholars outside of higher education, SHEEOs are an ideal case for studying the research questions presented above for several reasons. The first is because of the clarity they offer in isolating the factors needed for comparison. Each SHEEO agency is largely focused on the same set of issues, but the organizations collectively are structured in a variety of ways. These structural variations can be leveraged for the analysis to answer questions about the impact of organizational structure on bureaucratic agendas. This type of analysis would not be possible in many other policy areas nor at the federal level, where less overlap exists between agency missions.

Furthermore, higher education policy is unique in that it is almost exclusively dealt with at the state level, with very little federal involvement. With the notable exceptions of Title IX, institutional accreditation, and some financial aid programs (such as Pell Grants and subsidized student loans), the federal Department of Education has little influence on the policies which govern higher education. A similar relationship exists for local governments, which typically have even less involvement in higher education policy. This pattern allows for a clear comparison between higher education agencies without the introduction of noise generated by other levels of government.

Finally, higher education is a high priority issue in state legislatures, and SHEEOs are situated at the center of these discussions. Higher education is tied to several major issues in state politics—labor policy, economic trends, and budgets to name a few—and can therefore be expected to gain a substantial amount of attention from state legislatures. This ensures both the bureaucratic and legislative agendas will contain extensive discussions of the issue, providing a large dataset for the empirical analysis. The convergence of these factors means SHEEOs are an ideal type of agency for this project, both practically and theoretically.

The large dataset mentioned above is comprised of two primary sources of data— annual reports from SHEEO agencies and bills introduced in state legislatures. Each of these data sources is used to approximate the agenda of their originating institutions through topic coding at the paragraph level. The coding scheme is consistent across the dataset, enabling the needed comparisons between institutions of different types and in different states. The two states chosen for this study, Kansas and Illinois, were selected

based on the institutional structure of their SHEEO agency such that the analysis includes a representative example of both a centralized and decentralized organization.

To assess the impacts of these structural factors on bureaucratic agendas and their connection to subsequent legislative agendas, I utilize an approach similar to other work focused on policy change distributions. The specific methodologies applied in the empirical chapters of this project include distributional representations of the data to illustrate the agenda of each institution; compositional analyses to determine the shares of attention given to each topic; measures of volatility between topics over time; and correlation and regression models to examine the links between various institutional agendas. The combination of these methodologies serves to answer the research questions presented above, thereby providing a full understanding of bureaucratic agendas and their role in the policy process.

Implications

The assessment of bureaucratic information provision undertaken in this project represents a significant step forward in our understanding of the role these agencies play in public policymaking. Beyond these academic contributions, however, the results of this research also contain valuable insights for practitioners working within SHEEOs or other bureaucracies. In sum, this work has far-reaching applications for a wide array of audiences.

The primary audience that will benefit from the research presented in the following pages is the community of scholars focused on agenda setting or the

bureaucracy. In terms of the agenda setting literature, this project makes several contributions. The first is a simple one in that it applies theories of agenda setting to state level institutions. Despite the large body of work concerning agenda setting at the national level and from a comparative perspective (Baumgartner et al. 2009; Baumgartner and Jones 1991, 1993; Jennings et al. 2011), little of this work has been translated to the state level (Mallinson 2016 is a notable exception). Doing so will allow this work to be connected to that larger body of work, thereby enabling discussions of how these processes are similar or different at various levels of government. Furthermore, this project brings a greater level of detail to these conversations in that it focuses on a single policy area rather than government agendas as a whole. This decision facilitates a deeper look at the specific mechanisms through which agenda setting occurs and the role various actors have in the process.

More significantly, this work brings the bureaucracy into the conversation. Though a literature is beginning to emerge on this issue (Baekgaard, Mortensen, and Bech Seeberg 2018; Workman 2015), there is still a great deal of work to be done in examining the role bureaucratic agencies play in the policy process. Making this connection provides a fuller grasp of problem definition and agenda setting by broadening the pool of included actors and painting a more realistic picture of how policies originate. Rather than limiting the analyses to legislators and chief executives as is the case for much of the existing literature, the addition of the bureaucracy allows for greater nuance in determining where policy proposals come from at their earliest inception before being codified into legislation. In this way, the research presented here

greatly enhances our understanding of how problems are defined for government action and how the agenda of various institutions is set. Added to the impact of studying these processes at the state level, this work is poised to make significant theoretical contributions to the academic literature.

In addition to the theoretical components, the data and approach used in this project opens new avenues of research on similar topics. Specifically, the coding scheme developed for this project enables classification of higher education issues at a very detailed level, which has not been established to this point. This topic scheme could be used for similar analyses in additional states than included here or to guide the development of similar topical schemes for other policy areas. Furthermore, the large dataset generated for this project could be used to increase our understanding of higher education policy and the work of state higher education leaders. To date, this literature has largely centered on individual policies rather than a holistic approach as utilized here (for examples, see Avery and Turner 2012; Bernard et al. 2004; Kuh and Pascarella 2004; Marcucci and Johnstone 2007; Rabovsky 2012; and Small and Winship 2007). This tendency has left significant gaps in the higher education literature, leaving many unanswered questions that could begin to be addressed using datasets such as this one.

Relatedly, this project contains valuable insights for practitioners working in higher education settings by providing a deeper knowledge of the ways in which these policies are developed. Not only does this research help agency employees appreciate the factors influencing their own institution's agenda, but it also offers guidance for understanding the agendas of state legislatures with regard to higher education issues.

This knowledge can help SHEEO directors to recognize the constraints imposed by their organization's structure on attending to a broad range of substantive topics and to find ways these limitations might be overcome. Moreover, the results of this project explain the ways in which bureaucratic agencies can influence the policies they are charged to oversee through the information they provide to state legislators. Using these findings, leaders of SHEEO agencies can tailor the information they provide into the policy process to ensure it is useful for policymakers crafting legislation.

Though most directly relevant for practitioners in the field of higher education policy, the results of this research also aid the communication strategies used by bureaucratic actors across other policy areas. Because the analysis is couched in terms of structural factors that exist for agencies in all policy areas, the findings are broadly generalizable to organizations working on other substantive issues. As such, practitioners working in bureaucratic agencies or other groups wishing to influence public policy can utilize the findings of this research to shape more effective communications to legislators and other policy makers in order to maximize their impact on the policy process. In sum, this research has the potential to have a broad range of implications, for both academics and practitioners.

Chapter Summaries

The remainder of this project is made up of six substantive chapters. The first, Chapter Two, details the theoretical underpinnings of the arguments being made throughout the subsequent chapters. In doing so, the chapter reviews several relevant

literatures to which this project contributes. First is the agenda setting literature, which

is foundational to the arguments being made. I then narrow the discussion to attention

dynamics, with special attention to the role of information, information processing, and

problem definition in determining how problems will be addressed by government

institutions. Following this, I turn to a discussion of structural factors which affect the

amount of institutional friction experienced by an agency, thereby conditioning its ability

to provide information and influence legislative agendas. The chapter then moves to an

overview of higher education governance structures (SHEEOs) and the literature

surrounding them before introducing the theoretical expectations for subsequent

chapters.

Chapter Three provides an overview of the research design used for the empirical

models of the project. A large part of this chapter is devoted to introducing the large and

unique dataset generated for the analysis. I begin with a discussion of the cases chosen,

including the reasons for concentrating on SHEEO agencies as well as the specific states

which comprise the sample. The middle part of Chapter Three focuses on the dataset

itself—the sources it was drawn from, the processing decisions that went into its creation,

and the meticulous coding process used to classify the information it contains.   The

chapter also includes a discussion of the original coding scheme developed for the project

and the other measures included in the analyses. Finally, Chapter Three contains

descriptive statistics concerning the various measures, providing the basis for the

empirical chapters to follow.

The first of the empirical chapters focuses on the content and diversity of SHEEO agendas, both in terms of which topics appear on agency agendas (their content) and how many unique topics are being discussed by an agency (agenda diversity). After a brief review of the role of bureaucracies as information providers in the policy process, the chapter moves to a detailed discussion of the agendas of the Kansas Board of Regents and the Illinois Board of Higher Education. I discuss the topics contained on each agency's agenda, the diversity of topics each SHEEO addresses, and the differences between the agendas of the two institutions. Chapter Four also includes a supplementary analysis of agenda diversity which examines whether a tradeoff exists between the number of issues to which an agency can attend and the depth with which the agency addresses them. This chapter establishes a baseline understanding of SHEEO agendas, which determines the issues on which an agency is able to provide policy-relevant information to legislators.

In Chapter Five, I turn to the volatility of bureaucratic agendas over time. The chapter begins with an overview of the significance and implications for studying agenda volatility as a factor in determining the influence of bureaucratic agencies on legislative bill introductions. I then proceed with the analysis of how SHEEO agendas change over time, using a variety of quantitative methodologies. Agenda volatility is examined both in terms of changes in the topics themselves which are discussed and the diversity each year's agenda contains. The primary purpose of this chapter is to account for the temporal aspect of institutional agendas and the constraints this places on an agency's ability to influence the agendas of other institutions.

Chapter Six builds on the findings of the previous chapters and connects the discussion of SHEEO agendas with state legislatures. The first part of the chapter presents an overview of legislative agendas similar to the analyses of the previous chapters, including measures of their content, diversity, and volatility. The latter part of the chapter moves toward establishing links between the two institutional agendas from each state. To do so, I utilize a series of correlation and regression models. The correlation models enable a direct comparison of the topics on each institution's agenda from year to year, demonstrating the extent to which topics on SHEEO agendas appear on the agenda of the state legislature in subsequent years. The regression models allow for a causal argument between the two agendas as well as the inclusion of several potentially confounding factors. Through these models, this final empirical chapter demonstrates the direct impact SHEEOs have on legislative agendas related to higher education policy.

Finally, Chapter Seven concludes with a summary of the results from each of the preceding chapters along with a final note about the hypotheses presented in the Chapter Two. The concluding chapter also includes discussion of the collective implications of the findings, including theoretical contributions to academic literatures, practical advice for agency personnel, and normative considerations for representative government. Finally, this chapter provides direction for future research that could extend the findings presented here and further deepen our understanding of the role of bureaucratic agencies in the policy process.

Chapter Two: Theory

The connection between bureaucracy and agenda setting in the policy process did not emerge in the field until relatively recently (Baekgaard, Mortensen and Bech Seeberg 2018; Workman 2015). Given this fact, it should come as no surprise that few published works address these questions directly. Instead, most work in this field centers on the bureaucracy *or* agenda setting, rather than the linkages between them. In order to address this oversight, answering the questions put forth in the previous chapter will require the consideration of several intersecting literatures and the building of bridges between them. The purpose of this chapter is to accomplish this goal by synthesizing these literatures to form clear expectations regarding the research questions.

First, the agenda setting literature will be discussed in detail, as it is foundational to the arguments made here. In this section, I provide an overview of the two primary approaches to agenda setting, before narrowing the focus to attention dynamics. This section is broken down into subsections summarizing the importance of attention in the policy process; the role of information in setting the agenda; and the way problems are defined to be addressed by government institutions. The next section argues for the importance of internal institutional and organizational factors in determining an organization's role in these processes. I then move on to the substantive focus of this project with a review of higher education governance structures and their role in providing information and guiding legislative attention. The final section of the chapter links these literatures together to show how they can collectively inform our

understanding of what information state higher education bureaucracies provide, the degree to which that information changes from year to year, and how well it aligns with the agendas of state legislatures in subsequent years.

Agenda Setting

One of the most significant factors underpinning governance is the political agenda. This agenda contains the "general set of political controversies" that fall "within the range of legitimate concerns meriting the attention of the polity" (Cobb and Elder 1971, 905). It is made up of the array of issues that will be discussed in legislatures and acted upon by executives. It dictates which problems in society will ultimately be attended to by government, as issues cannot be addressed without having first appeared on the agenda in some form. As such, agendas (both systemic and institutional) have been subject to a great deal of research by political scientists (Baumgartner and Jones 1991, 2009; Cobb and Elder 1971, 1983; Kingdon 1995). Scholars have also been highly interested in the processes which influence the content of these agendas, as agenda setting represents the means by which demands from the population are brought into government decision-making contexts (Cobb and Elder 1983; Cobb, Ross, and Ross 1976). In this sense, agendas and their determinants are incredibly important for understanding the democratic form of government.

The first works on agenda setting began to appear in the early 1970s with the proposition of Cohen, March, and Olsen's (1972) garbage can model of organizational choice. In this framework, organizations are viewed as essentially anarchical and

characterized by problematic preferences, unclear technology, and fluid participation. Rather than a structured hierarchy, such organizations are best viewed as "collections of choices looking for problems, issues and feelings looking for decision situations in which they might be aired, solutions looking for issues to which they might be an answer, and decision makers looking for work" (Cohen, March, and Olsen 1972, 2). Each of these elements exists somewhat independently within a garbage can from which they are selected and matched to become solutions to apparent problems.

The garbage can model of organizations was later adapted by John Kingdon (1995) into the slightly more structured multiple streams approach. Rather than four elements entering the decision space, Kingdon's model included three streams—problems, politics, and policies—which interacted to produce a policy outcome. This conception of organizations is somewhat less anarchical and allows for organizations to have agency in selecting their path forward. In this sense, the Kingdon model presents agenda setting as a more intentional process rather than the almost accidental approach of the garbage can model. Yet many of the elements of the earlier model are still incorporated in the multiple streams framework. Cohen, March, and Olsen's "decision makers looking for work" appear as policy entrepreneurs, who work from within or outside an organization to create their desired policy change during windows of opportunity. These windows open when each stream is focused on the same issue at the same time, such as after a focusing event which concentrates the attention of all interested parties. Focusing events most frequently take the form of natural disasters, which are suddenly known to policy makers and the public simultaneously and which spur substantial interest group

mobilization (Birkland 1997, 1998). These occurrences create windows of opportunity that make policy change regarding the issue much more likely, as they provide it premier space on the systemic agenda.

Absent a focusing event, it can be very difficult for an issue to gain space on an institution's agenda. Yet, the political agenda never seems to be void of topics for government consideration despite the rarity of these events. This inconsistency suggests that mechanisms other than focusing events are at work in setting the agenda, including features of organizations and the people within them. One factor that affects agenda setting at both of these levels is cognitive limitations. This approach to agenda setting has led to a fruitful line of research based on attention and information processing.

At its core, the cognitive approach to agenda setting is rooted in the rational choice models of individual decision making originally proposed in economics. Using a strict economic definition, rationality requires the use of a well-ordered utility function to achieve the best possible outcome of a choice (Becker 1962; Simon 1983). This approach was modified by psychologist Herbert Simon, who recognized complete rationality was an unattainable goal due to the cognitive limitations experienced by individuals and the institutions they make up. Instead, Simon proposed the theory of bounded rationality, in which individuals seek to make the best possible choice within the bounds of their capacity (Simon 1947). Scholars subscribing to this viewpoint argue people cannot feasibly consider all aspects of a problem because they are limited to serial processing of information, in which they must focus on a single issue at a time rather than attending to multiple issues simultaneously (Jones 2003; Simon 1994). This limitation also affects

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institutions, although they are frequently able to process issues in parallel to some extent. Such limitations apply in a wide range of decision contexts, including the series of decisions that make up systemic and institutional agendas. In this sense, attention and its determinants are crucially important for studies of institutional agendas.

Attention Dynamics

Policymakers, as individuals, are not immune to the cognitive limitations just discussed. Attention is too scarce for them to attend to all things at all times, but concentration on one topic necessarily means a reduction in attention to other topics. This tradeoff occurs because individual attention is ultimately a zero-sum game (Zhu 1992). Meanwhile, the breadth of issues that government is expected to address has only grown over time (Workman 2015; Baumgartner and Jones 2015). This trend places increasing pressure on policymakers to find ways to manage all of the policy areas vying for their attention.

In an effort to alleviate this problem, most government decisions are made within an institutional context. These institutions are better able to attend multiple issues at once through the use of parallel processing (Jones 2001; Simon 1983). In institutional settings, subunits of the organization can be specialized to focus on a single issue or group of issues. Using this strategy, the institution essentially divides the policy areas at hand among several smaller units which are then able to address a variety of issues simultaneously (Jones 2001; Simon 1983). The most familiar example of this division of labor is the committee system used in the U.S. Congress. Though no single member of

the legislature can maintain focused attention on every issue before the body, the committee structure ensures that each topic is being attended by at least one group of legislators at all times. In this way, the institutional structure expands the limits of attention and allows the organization to address a broader array of policy problems than would a more serial approach.

Unfortunately, even this approach has limitations. Congressional committees (and institutions in general) are ultimately made up of individuals, meaning they too face scarcity of attention. While division of labor increases the number of items that can be on an institution's agenda at any one time, this number is not infinite. Though more expansive than individual attention, the amount of institutional attention available remains fixed. This creates a situation known as the "bottleneck of attention" in which an individual or institution cannot simultaneously pay attention to every issue they face (Jones and Baumgartner 2005b; Simon 1994). In the legislative setting, this bottleneck is most easily seen through the winnowing of introduced bills throughout the deliberative process. Although a large number of bills are introduced in any given legislative session, only a few are able to receive enough attention for a vote on the floor of the chamber. More broadly, the bottleneck of attention is made up of the large number of informational signals being sent by other policy actors.

Such signals are simply clues about the agenda government faces which are sent between various policymaking actors (Workman 2015). For example, Congress frequently uses the budgetary process to send signals to bureaucratic agencies about policy preferences within the agency's policy area (Carpenter 1996). This instance is also

illustrative of the fact that signaling is an ongoing process between government institutions rather than a discrete set of actions at one point in time. Despite the continual and repeated nature of this process, such signals are always characterized by some measure of uncertainty and ambiguity, meaning their impact on the policymaking environment is never entirely clear (Jones and Baumgartner 2005b). For this reason, the interpretation and prioritization of signals from the surrounding environment becomes crucially important, even within institutions.

All of these signals must be dealt with by an institution and its leaders, who will have to make decisions about which issues to focus on. These decisions are largely conditioned by the institutional features of their organization. Specifically, organizational structure can be highly influential in decisions related to information processing. Structure is a key determinant of the capacity of an institution to process information, which in turn affects the feasible options for decision makers within the organization. Therefore, choices about the issues upon which an organization will focus are entirely circumscribed by the structure of the organization itself (Hammond 1986). It is for this reason that organizational structure is the focus of the present study—without a complete understanding of structural impacts, we cannot fully grasp how decisions related to institutional agendas get made.

Furthermore, choices among issues create attention diversity, or the degree of spread across possible topics within an agenda space (Boydstun, Bevan, and Thomas 2014). The level of concentration on a small number of policy areas not only impacts the amount of agenda space remaining for other topics, but can also affect the dynamics of

the agenda itself. Elements such as how the agenda changes over time, perceptions of

issues by various actors, and the outcomes of policy debates can all be influenced by the

amount of attention diversity present on an institution's agenda. In fact, scholars have

argued attention diversity is just as significant to policymaking as attention itself

(Boydstun, Bevan, and Thomas 2014).

Attention diversity also affects the ability of an organization to steer the broader

political agenda in a given direction, as it determines the availability of attention for

specific issues. Those organizations which have allocated attention to an issue will be

more likely to have an impact on policy discussions related to it, as they will have

prepared signals to send to policymakers. This theoretical argument will be tested in

Chapter Four by comparing the degree of diversity present in two bureaucratic agendas.

Bureaucracies are just one of a plethora of actors sending these signals, meaning

policymakers are forced to decipher among them in order to determine the issues most

worthy of active attention. This competition is resolved through information processing

by individuals and institutions.

Driven by attention dynamics, information processing is what determines whether

a given signal is worthy of active attention on an institution's agenda (Arrow 1974). At its

most basic level, information processing is simply the task of "collecting, assembling,

interpreting, and prioritizing signals from the environment" (Jones and Baumgartner

2005b, 7). In practice, however, this process is much more complicated. This is due in

large part to cognitive limitations similar to those influencing agenda setting. One such

limitation is our inability to adapt well to changes in the demands made upon us by

society. When changes come in, a rational actor makes a decision in accordance with the signal being received. An intendedly rational actor, as most people tend to be, isn't able to gather the complete information required to make a perfectly rational decision. This limitation results in disproportionate information processing, where signals tend not to be acted upon until they grow in strength and are repeated (Carpenter 1996; Jones 2001; Jones and Baumgartner 2005b).

Instead, receivers of these signals often rely on heuristics to make their choice easier by limiting the construction of the problem and the search for solutions (Jones 2001). A common heuristic that becomes a limitation for rational decision making is prepared learning. This phenomenon involves greater ease of learning some stimulus-response associations than others because individuals have previously created pathways for certain types of decisions. For legislators, one such pathway can be the source of information they use to make policy choices. Seeking information from a pre-determined source (for example, a bureaucratic agency over a think tank or interest group) alleviates the need to search through a large set of possible actions. This process helps individuals respond more quickly to familiar situations, although they may still have trouble responding appropriately to a new type of problem (Jones 2001).

While helpful in some instances, depending on prepared learning pathways can become problematic when policymakers are asked to process new signals being emitted by agencies or other actors. This is because these heuristics and cognitive limitations more generally lead to disproportionate information processing, in which interpreters of a signal make decisions that are not proportionate to the strength of the signal (Jones and

Baumgartner 2005b). Instead, interpreters—in this case policymakers—respond with either neglect or overestimation of the issue (Jones 2001). Practically, this takes the form of no apparent response (neglect) or a sudden large adjustment from the status quo (overestimation). These effects are familiar to many in political science, as they form the basis of punctuated equilibrium theory.

Like the limits of attention, the flawed adaptability and prepared learning of individuals are also present in the institutions they create. Accordingly, institutions are equally prone to disproportionate information processing, whether it is legislators interpreting a signal or bureaucracies providing them. In this context, information gets distorted both during transmission of a signal and through the interpretive process (Jones 2001). Other contributing factors to this phenomenon in policymaking are the unavoidable juggling of multiple issues by policymakers; the need to weight various attributes of the choice being faced; and the choice between competing solutions (Jones and Baumgartner 2005b). Having discussed the mechanisms by which information is processed in policymaking institutions, I now turn to consideration of information itself in the policy process.

Information

The traditional view of information is that it is a highly coveted commodity of experts, who are unwilling to share it for fear of losing the advantage it provides (McCubbins, Noll, and Weingast 1987). This viewpoint is at the basis of political control literatures, as scholars assume this hesitancy creates a moral hazard problem among

bureaucrats, who then use the information to implement their own policy preferences rather than those of their political principals (Miller 2005). According to this perspective, this tendency causes information to be scarce and difficult to obtain (Stigler 1961). However, as evidenced by the abundance of signals discussed above, the attention-focused approach to agenda setting argues the opposite is in fact true. In this framework, it is attention that is scarce rather than information. Information pours in from a variety of sources—including every actor sending the aforementioned signals to policymakers about preferences—meaning it is quite prevalent in the policy process. The real issue, then, is not seeking out additional information but figuring out what to do with the overabundance of information already being presented. Using the information processing techniques discussed above, this is the stage at which the institutional agenda gets set.

Meanwhile, the senders of preference signals are competing for attention and space on the emerging agenda. In doing so, actors are hoping to structure debate in a way consistent with their preferences by proving their perspective is more worthy of attention than other potential agenda topics. When actors are successful in this endeavor, information becomes a primary tool used in the competition for agenda space. As a necessary element for translating issue positions into concrete preferences that can be acted upon, it can help to influence policy outcomes in a favorable direction (Baumgartner and Jones 2015). This creates a sort of cycle in which the original signals create a bottleneck of attention for policymakers, in turn leading to a competition for attention that is carried out by the provision of additional information, which exacerbates

the difficulties of prioritization. Despite these difficulties, all this information plays a

critical role in the policy process by enabling problem definition to occur.

Problem Definition

Problems are ultimately defined based on the information that is available to

decision makers. This information comes from a variety of sources in the policy process,

but one of the more advantaged providers is the bureaucracy. Bureaucratic agencies are

repositories for vast amounts of policy-relevant information due to their role as monitors

of various policy areas. In this role, they continually keep watch over issues that cannot

be attended to by the legislature. Performance of this function not only helps to expand

the attention of government, but also makes it easier to identify problems as they emerge

(Workman 2015). In this sense, legislatures rely on the bureaucracy to alert them to

issues that require active attention rather than having to expend large amounts of effort

on oversight activities (McCubbins and Schwartz 1984; Shafran 2015). This role of the

bureaucracy is mutually beneficial for both the agency and the legislature, but the

influence of bureaucracy on agenda setting goes beyond simply identifying new issues for

attention.

Once a policy area has been identified as needing attention, bureaucracies are

party to the ensuing discussion about the topic itself. During this time, the problem is

defined for potential inclusion on the systemic or legislative agenda. This process of

problem definition involves choosing which goals to focus on; determining what values

may be expendable; and delineating what counts as a solution for the problem and which

means to consider for solving it. Eventually a definition emerges that provides a framework within which certain interventions can be considered as solutions and which determines the complexity of the identified problem (Dery 1984). As can be inferred from this description, policy problems are ultimately matters of interpretation and based on perceptions about the nature of the problem (Cobb and Elder 1983; Rochefort and Cobb 1994). The qualities of a problem are never incontestable and often change over time as the problem expands to larger groups (Cobb, Ross, and Ross 1976; Rochefort and Cobb 1994).

Throughout this process, various elements of policies and potential solutions may be brought up as elements of the problem's definition. In the end, however, problems are best understood through solutions. A problem must be defined in a way that makes it amenable to government action if it is to achieve placement on the legislative agenda. If a government solution is not viewed as possible and reasonably feasible, the issue will likely be seen merely as an undesirable condition rather than a tangible problem to be addressed (Dery 1984). In this sense, it isn't always the most accurate definition of the problem that wins out, but the one which is most credible and politically acceptable at the time (Cobb and Elder 1983).

This fact introduces another venue of competition into the agenda setting process, as various actors attempt to gain advantage and maximize their influence by defining the problem according to their own standpoint (Cobb and Elder 1983; Rochefort and Cobb 1994). Bureaucracies again enjoy a slight advantage in this competition due to their longevity relative to other information providers. Such endurance produces a very

reliable and consistent stream of information, which allows a problem to be defined much more readily (Workman, Shafran, and Bark 2017). This advantage exists even if the information produced by the agency is not fully accurate, as the repeated interactions of bureaucrats with legislators enables the development of an understanding of preferences. This understanding allows the legislature to utilize information provided by the bureaucracy even if it is biased in a certain direction, giving these agencies an advantage in the problem definition process (Workman 2015; Workman, Shafran, and Bark 2017).

This advantage is a significant one for agencies trying to influence the policy process. Because it sets the tone for all subsequent discussion of a policy issue, control over problem definition is a major determinant of influence in agenda setting (Cobb and Elder 1983). The advantages of bureaucracy in this context, however, are not necessarily equal. While bureaucratic agencies are almost uniformly advantaged compared to external actors such as interest groups, they are not endowed with the same level of advantage across the board. Between agencies, there are a variety of factors that can affect their ultimate level of influence. These issues largely stem from internal factors within the organization itself, and can be well summarized through a discussion of institutional friction, which makes up the next section of this chapter.

Institutional Influence

As mentioned earlier, most (if not all) political decisions are channeled through institutions before any policy changes occur. Such institutions provide myriad advantages to the policy process, as they expand the limits of attention and enable the

recognition of emerging societal problems. However, institutions are not neutral

facilitators of political decisions (Jackson 1990). They can also introduce new hurdles to

be overcome, known collectively as "institutional friction." This friction forms a sort of

"cost structure" for information processing and decision-making, which can be

approximated by the way friction operates in a physical setting. As friction accumulates,

it slows down a process that is taking place over time, until the pressure builds up to the

point that the friction is overcome. Institutional friction similarly operates as a threshold

effect: if a signal is above the threshold, the friction is overcome and the institutional

response is commensurate with the signal; if a signal is below the threshold, the friction

generates resistance and causes the institution to process the signal disproportionately

(Jones and Baumgartner 2005a). As it would in a physical model, the level of friction

present in an organization is variable, and the degree to which it exists determines the

institution's ability to influence problem definition and the policy process.

Institutional friction has been described as a series of four costs imposed on

policymaking by decision making systems (Jones and Baumgartner 2005a; Jones, Sulkin,

and Larsen 2003). The first of these costs, cognitive costs, occur long before the point of

decision and may not actually be recognized by those within the institution. Cognitive

costs are associated with the limitations of individual attention and information

processing discussed previously. This type of cost is incurred when a decision maker does

not know he or she needs to make a decision because the issue lies outside their area of

current attention, and is therefore common for organizations with highly centralized

structures that do not allow for parallel processing. In these organizations, actors are

aware of decisions only for the subset of issues that gain space on the agenda, leaving many issues to be neglected and create cognitive friction.

Once it is apparent that a decision must be made, institutions face information costs associated with the need to search for relevant information to aid in the decision. Again, this type of cost is higher in organizations with fewer issues on the agenda, as less information is readily available on other topics. The final two types of institutional friction are introduced later, when the actual decision is being made. Decision costs coincide with this stage, as they are introduced when various actors are working to come to an agreement. This type of friction includes bargaining costs and institutional costs resulting from the structure of the institution's decision-making apparatus. This is the one type of cost which is lessened by a hierarchical organizational structure, as the decision process is streamlined by the concentration of authority. Finally, transaction costs occur after the agreement has been reached, and involve activities such as ensuring compliance or enacting payment for a service (North 1990). Transaction costs tend to be higher in centralized organizations due to the need for information to be passed vertically through the institution before being published to external audiences.

These costs exist to varying degrees in bureaucratic agencies, meaning they are a large factor in determining an organization's agenda and outputs. Unfortunately, little is known about the effect of institutional friction on organizational activity as the primary setting in which these dynamics have been studied is public budgeting. In the context of the punctuated equilibrium model, scholars have repeatedly found that an increase in institutional friction corresponds to more punctuations in budgets and more

leptokurtosis in budget distributions (Jones and Baumgartner 2005a; Ryu 2009). Though

institutional friction cannot account for all variation in budget distributions, its presence

and interaction with cognitive factors invariably lead to the punctuated equilibrium

model to some degree, in which distributions are characterized by general stability with

periodic punctuations (Jones and Baumgartner 2005a, 347). Breunig and Koski find

similar patterns in budgets at the state level, where institutional friction can result from

factors such as various uses of gubernatorial authority or the number of governmental

bodies involved in budgetary decisions (Breunig and Koski 2006, 2009). Regardless of

cause, budgets respond to institutional contexts in both good times and bad (Breunig and

Koski 2012).

Similar conclusions have been drawn from non-budgetary contexts. In an

assessment of distributions ranging from elections to media coverage to executive orders,

Jones, Sulkin, and Larsen (2003) confirm that more institutional friction creates a higher

degree of leptokurtosis generated by the more frequent occurrence of punctuations.

Institutional friction is not unique to American institutions, however, as Baumgartner

and his coauthors found the telltale leptokurtosis in a variety of policy distributions

drawn from the U.S., Denmark, and Belgium. These authors also find that institutional

friction increases as analyses focus on processes at further points in the policy cycle,

reaching its highest point in budgetary outputs (Baumgartner et al. 2009). Jones et al

(2009) corroborate this situational element, as they find that governments face more

friction when cutting programs than when expanding them. Given that institutional

friction has been shown to matter in such a wide variety of contexts, it stands to reason that organizational agendas would be no different.

Beyond the lack of attention to agenda setting within organizations, the institutional friction literature is also limited in that it has primarily focused on the costs imposed at the point of decision—decision and transaction costs (Jones et al. 2009). However, in the present context it is information and cognitive costs that are most significant. These are the costs that can be alleviated through the provision of information by the bureaucracy and other actors. The extent to which this alleviation takes place depends on the specific bureaucracies involved and their capacity to provide information to legislative decision makers. This ability is in turn conditioned by the amount of institutional friction within the agency itself, which is often determined by structural factors present in the organization.

These structural factors can substantially affect a variety of factors related to an institution's agenda, as they influence which options are compared, the order in which they are presented, and the actors involved in the decision. In fact, structure has such a profound impact on the agenda that John Hammond claimed "*a particular organizational structure is, in effect, the organization's agenda*" (1986, 382, emphasis in original). While structures may impact the agenda in various ways, Hammond argues it is impossible to design an entirely neutral structure which has no effect on the choices made with regard to the agency's agenda. A similar sentiment was espoused by Terry Moe (1995), who asserted that structural choices have a variety of consequences for the content and

direction of public policy. As such, these choices are implicitly about and cannot be separated from policy (Moe 1995).

A key structural decision that can have dramatic impacts on an institution's agenda is the degree of centralization, which can limit or exacerbate various types of institutional friction. In a highly centralized organization, transaction and cognitive costs are likely to be higher. Since information must travel through multiple levels of hierarchy within the agency before being reported out to other policy actors, there are more transactions and therefore costs associated with producing the information. Cognitive costs are increased because there is a smaller group of individuals focusing on a policy problem at any given time, giving rise to the limits of attention previously discussed. While this arrangement likely improves an agency's responsiveness to an issue within its purview, this flexibility comes at a cost of lessening the scope of information a centralized bureaucracy is able to provide (May, Workman, and Jones 2008). Such a frictional environment may result in information being obtained from other sources, thereby limiting an agency's ability to influence public policy.

Agencies with a less centralized structure, meanwhile, are more likely to be able to produce information that is useful in a wide variety of policy discussions. Due to the decentralized nature of the organization, these structures are better able to utilize parallel processing to address multiple issues at once. Monitoring a large number of topics simultaneously then reduces the transaction and information costs faced by the organization. Transaction costs are decreased in accordance with the number of hierarchical levels within an agency, while information costs shrink as the need to engage

in additional searches for information diminishes. All of this adds up to an ability to produce a higher volume of information that can potentially become part of relevant policy discussions.

Thus we can expect the amount of centralization and hierarchy in an agency to have tangible impacts on its agenda and informational outputs. The varying levels of institutional friction they cause lead to different capacities for response to the emergence or redefinition of policy issues. This translates into variations in the ability of an agency to provide information to legislative agendas and other actors in the policy process, an element which is largely overlooked by the distributional studies of institutional friction. I test these statements using a substantive setting of higher education governance boards, which are the topic to which I now turn.

Higher Education Governance Structures

Historically, the responsibility for making higher education policy has largely been reserved for the states. As a result, most state governments have established a bureaucratic agency to function as the primary oversight body for this policy area. These agencies most commonly take the form of a governance board and their staff, and are broadly tasked with oversight of any institutions of higher education operating in the state. This oversight includes a wide range of activities related to the state's system of higher education, often including things such as the administration of state financial aid programs, data collection and analysis, and approval of selections for campus presidents and chancellors, among others.

To fulfill these responsibilities, governance bodies serve as a sort of mediator between the state government and its institutions of higher education. From the perspective of state elected officials, governance boards are expected to hold institutions accountable and enforce state policies related to higher education. To the institutions of higher education, the governance board is often seen as a representative for higher education in the state, responsible for advocating for the system as a whole. As such, these governance boards operate in both a political and a bureaucratic role. This position can be quite complicated for these agencies and their staffs, who often feel "torn between the conviction that they should be institutional proponents and the realization that their statutory obligations require objectivity and a close relationship to governors and legislative bodies" (Hughes and Mills 1975, 247–48).

At the helm of these agencies is an individual known as the State Higher Education Executive Officer, or SHEEO, who effectively functions as the director of the bureaucratic agency surrounding higher education[2]. This individual is charged with the day-to-day management of the organization in support of the goals laid out by the members of the governance board, who play a role similar to that of university trustees. The specific authority of the SHEEO and the agency he or she leads over the institutions in their state varies widely, with no two states having exactly the same institutional structure. However, there are significant similarities across many of the boards. This is what drove the early stages of research into these bodies and higher education governance more

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[2] Though the term SHEEO typically refers to the individual director of a state governance structure, I use it more broadly throughout this project to include the bureaucratic agencies headed by these individuals.

generally to focus on classification of the various structural models into categories for analysis.

Several scholars have put forth definitions of the various types of governance structures used in higher education, which can be used as criteria for grouping similar organizations (Berdahl 1971; Dressel, Freeman, and Lynd 1980; Glenny 1959; McGuinness 2003; Millett 1984). At a basic level, there is a high degree of consensus between these classification systems, as all agree on the categories that should be used. Each of these scholars has characterized SHEEOs primarily as consolidated governing boards or coordinating boards. In general, the major distinction between these two categories is the amount of authority over institutions each is granted. This disparity of authority leads governing and coordinating boards to play different roles regarding higher education in a state, resulting in advantages and disadvantages for each. Furthermore, the amount of authority possessed by the statewide board reflects the level of centralization present in the state's system of higher education, which I argue is a key factor in determining the effectiveness of SHEEOs in influencing the policy process.

Consolidated governing boards, also known simply as governing boards, undoubtedly possess more power over institutions of higher education than do coordinating boards. This is because governing boards are authorized to make operational decisions with regard to higher education institutions. Millett defines this type of board as a multi-campus institution with "statewide authority and responsibility for the governance of all public higher education within the state" (1984, 99). This includes day-to-day decisions and their implementation, as there are sometimes no

institutional boards for each campus in states with this type of system (Glenny 1959). This control typically extends to budgetary matters as well, with the governing board presenting the budget for the entire system to the legislature for appropriations. This budgeting authority is one of the main advantages of a governing board system. It is also one of three major authorities governing boards have that coordinating boards do not, the other two being appointment of campus chief administrative officers and intervening in internal affairs on campuses when necessary (Millett 1984). As a result of these authorities, a governing board structure effectively centralizes most of the decision-making power related to higher education in one place, becoming the unified voice for higher education issues.

The Kansas Board of Regents provides a textbook example of this type of governance structure and is used in this study as a representative case. It holds governing authority over each of the state's six universities as well as its nineteen community colleges, six technical colleges, and one municipal university. The board also authorizes the operations of any private or out-of-state institutions wishing to operate in Kansas. This structure creates a highly centralized system in which the SHEEO is recognized as the primary voice for all of Kansas higher education. Where the state legislature and governor are concerned, the Board of Regents is the main contact point for any concerns related to higher education, regardless of which institutions it involves.

Such centralization is likely to result in tangible impacts on the agency's agenda and ability to influence public policy, as will be examined in the upcoming chapters. Because it serves as the primary voice for higher education, the Kansas Board of Regents

must gather preferences from various campuses and translate them into a single stance on an issue prior to conveying the position of higher education to the state legislature. Each of these steps imposes additional institutional friction, meaning the agency is likely to only complete this process for issues above some threshold of importance. This in turn limits the ability of the agency to attend to a wide array of issues and provide relevant information to decision makers.

Coordinating board structures, meanwhile, produce a much lower degree of centralization in a state's system of higher education. These bodies possess limited powers to govern individual institutions, primarily reviewing and overseeing decisions that have already been made at the campus level rather than exerting control over institutions as governing boards do. Instead of making small-scale decisions on behalf of colleges and universities, coordinating boards are engaged in activities such as approving degree programs and reviewing proposed budgets (Millett 1984). Also unlike governing boards, coordinating boards are supplemented by the trustees or regents of each university within the system rather than supplanting them altogether (Glenny 1959). In some coordinating board states, colleges and universities are further organized into systems which create an additional layer of governance for the institutions. Thus, a coordinating board structure shifts autonomy away from the central state agency and allows system boards or institutional heads to retain influence over their campuses (Dressel, Freeman, and Lynd 1980; McGuinness 2003). Such autonomy also enables institutions and intrastate systems to generate information separately from the statewide

board, allowing for more variation in information provision than a single entity representing the higher education perspective.

A good example of this type of governance body is the Illinois Board of Higher Education (IBHE), which is the case used to represent coordinating boards in the present study. The IBHE plays more of a planning and coordination role between the institutions of higher education located in Illinois than the governing function played by the Kansas Board of Regents. Though it connects public universities, community colleges and private institutions, the board is not the primary authority for everyday institutional decisions. Each university in the state maintains an autonomous governing board for these tasks, while the Illinois Community College Board possesses this authority for the state's system of community colleges. This leads to a much less centralized structure of higher education in the state, meaning state lawmakers have different points of contact for questions regarding specific institutions.

As with the Kansas Board of Regents, the degree of centralization present in the organizational structure of the Illinois Board of Higher Education is likely to affect its agenda and ability to impact public policy. Because each institution also has its own board to present its perspective to state legislators or other policy actors, the IBHE is free to formulate its stances on issues related to higher education with less input from the institutions themselves. This freedom is further enhanced by the limited regulatory responsibilities of the coordinating board in comparison with the KBOR. In this sense, the decentralization of a coordinating board structure decreases the overall impact of

institutional friction on the agency's agenda, meaning the Illinois SHEEO is likely to have a broader agenda and greater ability to impact public policy than its Kansas counterpart.

While governing and coordinating boards are the most common types of governance structures for higher education, there are also states which choose not to use either one. There is a third type of governance structure known as planning agencies or advisory groups, though these are rarely seen in statewide systems. These bodies are voluntary and have no legal standing to oversee higher education. Though they are usually formed by the institutions themselves and frequently operate with some level of formality, advisory groups function primarily as avenues of communication between these institutions and the state (Berdahl 1971; McLendon and Ness 2003; Millett 1984). The powers of such boards are incredibly limited, as they are unable to do more than make suggestions for institutions to follow, which they can choose to implement or not. This type of structure was more common during the emergence of higher education governance as an issue for states to address, and does not currently exist in any state. Instead, states without a single statewide governance structure typically allow the colleges and universities in the state to control their own governance. In these circumstances, institutional governance can be done through organized systems, associations of institutions, or by each campus individually.

The classic example of a state without a single statewide board is California, where higher education is broken down into three systems: the University of California, California State University, and the California Community Colleges. The system developed in this way following the 1960 Master Plan for Higher Education in California,

which recommended public higher education in California be divided into the three systems, each of which would "strive for excellence in its sphere, as assigned" (Coons et al. 1960, 2). Within this structure, each system functions independently and maintains a distinct voice representing its particular segment of higher education in the state. The community college system is considered part of the public school system and is made up of 72 districts overseeing anywhere from one to nine campuses.

The California State University system is administered by a board of trustees which mirrors the board of regents of the University of California. Both of these structures operate in ways similar to a statewide coordinating board, performing functions such as coordination between campuses and management of university property. However, only schools which are part of the University of California system are authorized to offer doctoral degrees, while the California State schools may only offer undergraduate and master's degrees. This structure was designed primarily to reduce the risk of duplication of programs, but has also resulted in the two systems having very different perspectives on many policies related to higher education. Accordingly, policy discussions related to higher education in California are carried out much differently than in most other states, as there is no single representative for all aspects of higher education. Though this does create a very interesting case of higher education governance, an assessment of states without a single SHEEO structure lies beyond the scope of the present study.

No matter what type of structure is used by a state system of higher education, the body plays a significant role in its governance. SHEEOs are responsible for crucial tasks such as ensuring all institutions are as equitably funded as possible, reviewing plans for

new and existing institutions, and minimizing duplication of programs within the state (Dressel, Freeman, and Lynd 1980). In addition to these specific functions, SHEEO organizations play a unique "middle man" role between the state government and institutions of higher education, making them both political and bureaucratic organizations.

Furthermore, SHEEO structures have substantial impacts on information provision and problem definition for policies related to higher education. Because of their unique position in the policy area, these organizations can have a great deal of influence on policy choices. This impact can be even stronger for organizations structured as coordinating boards, due to the freedom from institutional friction provided by the lower degree of centralization. Nonetheless, all of these organizations have a distinct ability to define problems within higher education and provide general information that summarizes all campuses in a state. This positioning is especially useful in guiding policy choices if the number of other actors doing so is small. The impact of SHEEOs has been supported by a substantial amount of research, which has shown a state's governance structure can influence several aspects of higher education. These factors include tuition and financial aid policies, accountability policies, and the cost of higher education, among others (Hearn and Griswold 1994; Hearn, Griswold, and Marine 1996; Lowry 2001).

Much less research has been conducted into the mechanisms by which these institutions impact the policy process (Tandberg 2013). Instead, scholars have focused primarily on the relationship between the SHEEO and the higher education institutions it

oversees (Berdahl 1971; Bowen and Shapiro 1998; Marcus 1997) or on the influence of state government on the SHEEO (Heller 2001; Peterson 1988; Richardson and Martinez 2009). Very little research exists concerning this relationship in a reverse direction, which is the oversight this project hopes to address.

Theoretical Expectations

The intersection of these literatures leads to several clear expectations regarding information provision by bureaucratic agencies into the policy process at the state level. The first of these expectations is simply that SHEEOs will provide a great deal of information for state legislators and other policymakers to use in crafting policy related to higher education. Both SHEEOs and external organizations will provide this information in the hopes of influencing the way problems are defined and structuring the debate surrounding potential responses. Such incentives are present for all types of organizations, meaning bureaucratic agencies must compete for their opportunity to influence legislation.

Within this environment, however, I expect only a small fraction of the available information to be directly observed in subsequent legislation. This is due primarily to the sheer volume of information being presented and the signaling which accompanies it. The efforts of information providers along with the attention limitations of legislators create a need for information to be prioritized in terms of usefulness for policymaking, with only the top issues enjoying legislative attention. The remaining information is

effectively crowded out in the bottleneck, meaning it will have little impact on bill introduction or adoption.

Regarding the effectiveness of information at surviving the bottleneck of attention and influencing policy outcomes, I expect all SHEEOs to exert some degree of influence on the policy process. Such an influence in likely in each state due to the privileged position of bureaucratic agencies as information providers. Their long-term existence allows legislators to become familiar with any biases present in the information provided by SHEEOs, making it possible to interpret and use information from these sources appropriately (Workman 2015). Additionally, SHEEOs are uniquely positioned as a liaison between the state legislature and colleges and universities, which enables them to provide especially useful information from within the higher education sector. As a result, these agencies are likely to enjoy an advantage over other types of organizations in shifting legislative attention. The combination of these factors suggests SHEEOs will have a substantial voice in higher education policy and make tangible impacts on legislation.

The extent to which SHEEO agencies are able to exert influence on the policy process, however, is likely to vary based on institutional and organizational structure. Several characteristics of these organizations play a role in determining the amount of institutional friction they impose, which in turn affects the capacity of the organization to produce and communicate information to legislators. One of the most influential of these factors is the degree of centralization present in an agency, which I expect to greatly affect the institution's agenda. Due to the increased transaction and cognitive costs that

come with a high degree of centralization, these agencies will face greater difficulty in providing information to legislatures on a broad array of topics. Accordingly, I expect more centralized agencies to concentrate on a smaller and less diverse set of substantive topic areas. In this sense, centralized agencies will only be able to inform legislatures with regard to this subset of issues, while less centralized organizations will enjoy broader impacts.

For SHEEO organizations specifically, degree of centralization is highly intertwined with the type of governance body present in a state. As discussed previously, consolidated governing boards are the most centralized form of higher education governance, with states using a coordinating board model being substantially less centralized. Consequently, governing boards impose a higher degree of institutional friction than do coordinating boards. As mentioned previously, the role of a governing board as a single unified voice for all of higher education requires collecting information about college and university preferences, translating these preferences into a single stance on an issue, and conveying this position to the state legislature. Each step of this process creates additional transaction costs prior to information being conveyed to the legislature, resulting in a highly frictional environment. This process also requires a great deal of time and attention by individuals within the organization, meaning they will likely only engage in the process for issues of some importance. Relatedly, governing boards often have greater regulatory responsibilities, which may crowd out attention that would otherwise have been paid to legislative matters. This tendency further limits the capacity of the SHEEO to provide information to the legislature on a broad array of issues.

Coordinating boards, meanwhile, preserve authority for campus leaders in the state and are only one of several voices hoping to inform higher education policy. Because of this, coordinating boards are freer to craft stances on a variety of issues related to higher education, as there is little need to consolidate the opinions of diverse campuses. As such, they experience less institutional friction than their counterparts in governing board states, and are able to more easily provide information on a broad array of substantive topics.

In terms of capacity to produce information, I expect a substantial difference to be apparent in the diversity of agenda content in each type of SHEEO organization. Governing boards are expected to have the more limited agendas due to the high degree of centralization and institutional friction with which they are faced. This will lead them to influence the legislature on a narrower set of policy topics. Coordinating boards are expected to have substantially more diverse agendas, as they experience less institutional friction in crafting stances on particular topics. This breadth is also likely to translate into a more stable agenda, as an agency merely has to adjust the level of emphasis given to a certain topic rather than switch topics entirely to focus on a new issue. In governing board environments, agencies are less likely to have paid previous attention to a non-salient issue, meaning the shifts between issues will be more dramatic.

Finally, coordinating boards are expected to be better prepared to influence legislative discussions of higher education policy. Because they are consistently monitoring a broader range of substantive topics, these organizations are equipped with more expertise related to issues that could potentially be acted upon by the legislature.

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This expertise is then translated into stronger signals for legislators that certain topics require action or increased attention. Accordingly, the agendas of coordinating boards are expected to align more closely with the agendas of state legislatures in subsequent years as they help to define problems and lead the legislature to act on them.

Subsequent chapters of this project will empirically test each of these claims, with a special emphasis on the impact of centralization on the role of SHEEOs in the policy process. Chapter Four focuses on the production of information by different types of higher education governance structures, testing expectations about the agenda diversity within the different structures. This is followed by an assessment of the volatility of SHEEO agendas in Chapter Five, using distributional analysis of changes among topics on the agenda. Finally, Chapter Six considers the influence of SHEEO-produced information on legislative outputs by comparing SHEEO agendas with subsequent legislative agendas. Before diving into these analyses, however, the next chapter describes the empirical foundation of the research design used to answer the questions posed in the introductory chapter.

Chapter Three: Research Design

At the root of the present conception of agenda setting is information. It is the driver of influence from bureaucracies and other actors as well as a key decision factor for legislative policymakers. Accordingly, there is a great deal of information present in the policy process, which must be sorted through and prioritized before legislation is written. The prioritization process dictates which providers of information will be most influential on resulting policies, and can be affected by a variety of factors, including characteristics of information providers and environmental context. The aim of the present study is to discern which of these aspects plays the largest role in the prioritization process and thus warrants the most attention by legislators and commands the most influence on subsequent legislation.

The empirical foundation for answering these questions is an examination of information provided to state legislators regarding higher education. Altogether, the dataset encompasses information from two sources in each of two states. Combining information provided by bureaucracies with introduced legislation related to higher education led to a large collection of 923 documents. It represents an enormous effort in the collection, preparation, and coding of data related to discussions of higher education in the states. This dataset is unique in its approach to information in the policy process and its focus on agenda influences at the state level. Using these two data sources enables assessment of which providers and types of information are most successful in shaping legislative agendas.

The remainder of this chapter provides a detailed description of this unique

dataset along with the processes used to generate it. First, I discuss the selection of cases

for the project, both in terms of substantive policy area and states for inclusion in the

analyses to follow. The middle section of the chapter focuses on the dataset itself and the

processing decisions that went into creating it, including a review of the meticulous

coding process used to classify the information contained in each document. This

classification necessitated the creation of an original coding scheme for the project, which

is also discussed in this chapter. The penultimate section briefly enumerates the other

measures used in the project and the rationale for their inclusion. Finally, the chapter

ends with a quantitative summary of the dataset, including detailed descriptive statistics

about various aspects of the data. This section serves as the groundwork for the empirical

analyses of subsequent chapters.

Case Selection

The dataset used in this project contains bureaucratic information related to

higher education collected from two states. Focusing on the higher education policy area

allows for a clear test of the theoretical expectations developed in the previous chapter, as

SHEEO agencies are focused on essentially the same set of tasks in each state yet are

structured in a variety of ways. Because of this, studying SHEEO agencies creates a high

degree of variation along the key dimension which can be leveraged for answering

questions about the impact of structural choices in the bureaucracy. Such an analysis

would not be possible in many other policy areas, nor at the federal level where many policy areas fall under the purview of a single agency.

Additionally, higher education policy is ideal for an examination of this type because it is determined almost exclusively at the state level. With the exception of Title IX implementation and some student financial aid programs, the federal government exerts little to no influence on higher education policies. This type of isolation is rare in state politics and does not exist so clearly in any other policy area addressed by the states. As a result, focusing on the higher education policy area allows me to divorce the role of bureaucracies at the state level from any significant interference from federal sources. This enables a more controlled comparison than would other policy areas in isolating the influence of structural factors on an agency's impact on the policy process.

In addition to the usefulness of studying SHEEOs for theoretical reasons, these agencies are important to study in their own right. Higher education is a key policy priority in most states, and SHEEOs are deeply enmeshed in these discussions. Furthermore, higher education is heavily tied to several other significant issues. It is central to discussions of a state's economic standing, as it plays a large role in the production of a qualified workforce. Higher education also accounts for a substantial portion of a state's budget, which is a key policy debate in every state. All of these issues are of paramount importance to policymakers, and are greatly impacted by higher education policy choices. In this sense, higher education is a primary consideration for state lawmakers and can be expected to play a sizable role in determining the political agenda.

Having established the level of government and policy area for the analysis, I then chose the states to include in the sample. Each of the two states was intentionally chosen based on the structure of its higher education governance body—one consolidated governing board and one coordinating board. Each can be thought of as an ideal type of the structure under which it operates and therefore serves as a representative example of other states using similar structures.

For the first type of governance body, consolidated governing boards, the analysis centers on the Kansas Board of Regents. This board closely mirrors the textbook definition of a governing board, as it governs all six state universities and has jurisdiction over the nineteen community colleges, six technical colleges, and one municipal university located in the state. The Board of Regents is also responsible for providing authorization to private and out-of-state institutions wishing to operate in Kansas. This structure leads to a highly centralized system of higher education, with the Board of Regents representing a single unified voice to the state legislature and governor.

In coordinating board states, the system is much less centralized, as seen through the Illinois Board of Higher Education. This board is primarily involved with planning and coordinating between institutions rather than making operational decisions on their behalf. For governance tasks, each state university maintains a separate governing board. The 48 community college campuses in the state operate under the shared governance of the Illinois Community College Board. As a result, there are a plethora of voices for higher education in Illinois rather than a single focal point.

Data

One of the major contributions of this work is the data upon which the analysis is built. This dataset represents a monumental effort of data collection and processing, but also enables a more detailed assessment of bureaucratic influence on the policy process than seen in any previous work. In sum, the original dataset contains the information of 923 documents from the two states, amounting to 9,918 units of observation. The dataset and the methods used to collect it are summarized below.

Types of Data

The dataset used in this project was created based on two major sources of data. The first is the annual reports published by higher education governance bodies in the three states. The primary goal of these reports is to account for the activity of the organization over the preceding fiscal year, though they are also used to discuss goals for higher education in the state moving forward and to address progress toward goals laid out in previous years. As such, they are a necessary accountability mechanism for these organizations to the state legislature as well as a key method of signaling from the SHEEO.

Accordingly, each report contains a great deal of information the governance body wishes to pass to the state legislature. This information typically includes an overview of the governance organization and its responsibilities, updates on its current and upcoming initiatives, and descriptions of and statistics from institutions of higher education or the condition of higher education in the state more broadly. Furthermore, these reports

often highlight specific strengths of the system's campuses or programs, present data concerning recent trends in American higher education, and provide links to further information on relevant topics. Though the accountability reports are similar in their objectives, the reports from each state discuss these topics in vastly different ways.

The annual reports of the Illinois Board of Higher Education are a function of the board's statutory responsibility to "analyze the present and future aims, needs and requirements of higher education in the State of Illinois and prepare a master plan for...public institutions of higher education in the areas of teaching, research, and public service." The *Board of Higher Education Act*[3] also instructs the agency to "engage in a continuing study, an analysis, and an evaluation of the master plan so developed." To comply with this responsibility, agency staff produce an annual report at the end of each fiscal year, which is generally published in December. This report details the board's coordination of higher education institutions and its plans for future development of the higher education sector. Additionally, the report includes data collected from colleges and universities in the state as well as data and analysis of statewide programs and initiatives. Finally, the annual report often includes a summary of legislation relevant to higher education, making the report a widely informative document about all aspects of higher education governance.

In Kansas, the annual report of the Board of Regents is produced voluntarily rather than being required by statute. Though the agency is not required to submit an annual

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[3] 110 ILCS 205/6 (1961)

accountability report[4], it has chosen to do so in each year since the 2010 adoption of a new strategic agenda for public higher education, known as "Foresight 2020". Since the implementation of the initiative, the Kansas Board of Regents has published a progress report each year providing updates regarding the plan's goals and objectives. The report is released in January of each year and reflects data from the previous academic year. Though organized somewhat differently, the information contained in Kansas SHEEO reports is drawn from similar sources as in Illinois. The annual reports contain both institutional and system-wide data and analysis, serving as an account of the system's improvement toward strategic goals and enabling legislators to remain informed of key developments in higher education.

The second type of data used in this project are legislative bills introduced in each state related to higher education in order to compare the information provided by SHEEOs with the information being used in lawmaking. This portion of the dataset contains the full population of bills introduced in each state during the years for which a SHEEO report is available, including appropriations bills granting funding to higher education institutions. This approach ensures all attention to higher education topics is captured and prevents any sampling biases from entering the analyses. Furthermore, including legislation as introduced rather than as passed allows for the inclusion of topics which are viewed as important by at least some state legislators but may not garner

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[4] The agency is required to submit several reports to the state legislature annually, but the accountability report is not among them. The required reports primarily relate to capital improvement projects, facilities, and admissions requirements of state institutions rather than the operation of the governing board. For more information on these reports, see https://www.kansasregents.org/data/legislative-reports.

enough support to be enacted into law. Overall, introduced legislation from the two states amounted to 912 documents. Where possible, the legislative data goes one year beyond the SHEEO reports to enable a one-year lag in the analyses.

Data Collection

The SHEEO data collected is drawn from the websites of the publishing organizations and includes all reports that are currently accessible. Due to the nature of state level data, the reports are available for different periods of time in each state. In Kansas, SHEEO reports are available for each year between 2012 and 2017. The Illinois Board of Higher Education annual reports are available for the years 2012 through 2016. Each of these periods includes the most recent report at the time of data collection and several years of archived reports.

Obtaining legislative data from both states was somewhat more complex. Although each state's legislature maintains an extensive online archive of legislation from previous sessions, none offers a sufficient topic search function to capture the full subset of legislation related to higher education. As a result, limiting the dataset to bills relevant to higher education required carefully reading through the title and abstract of each bill to determine its focus. Using this process, I identified and added into the dataset all bills that referenced higher education in any way. The final dataset includes bills concerning statewide governing or coordinating boards, particular sectors within higher education, or specific institutions or systems of higher education operating in the state as well as bills allocating funding to any of the above entities.

Data Processing

Once all of the relevant documents were identified and collected, each was broken down into paragraphs for topic coding. The paragraph level was chosen as the ideal unit of analysis because it allowed for enough specificity to assign a single code to each unit of analysis while minimizing the units that would contain no substantive information related to higher education. Had the coding been completed at the document level, units would have needed numerous substantive topic codes which would have unnecessarily complicated the models run. This would also have required the topic codes to be much more broad to be applicable to entire documents, thereby removing the level of detail that makes them useful for the analysis. On the other hand, coding at the sentence level would have introduced a great deal of complexity without adding much in terms of robustness. Accordingly, the paragraph level was deemed optimal for the purposes of the project, as it neither overly complicated the dataset nor oversimplified the information provided in the documents.

Several other decisions also needed to be made regarding preparation of the data for coding into topic categories. The most significant issue that arose was how to include information presented graphically or in tabular form. Omitting these data was not an acceptable option, given the amount of information they contained. Furthermore, it is likely that readers of the reports, namely legislators, would be relatively likely to skim through the narrative based on time constraints and instead focus on the graphical information which could be garnered more quickly. Therefore, "paragraph" was defined

very broadly to include quantitative information presented in graphs, charts, tables, and infographics in addition to the more traditional block of text.

Other, more minor, decisions regarding the definition of paragraphs involved unconventional forms of writing. Elements like bulleted lists became problematic due to their uniqueness. While some lists included bullets of only a few words, others included bullets that could be considered paragraphs in themselves. As such, determinations of bulleted lists were done based on a general rule such that any bullet containing a full sentence or more was considered a paragraph, while those with only a few words were not. This rule was effective for most instances of bullets appearing in the documents, although it did leave some room for discretion in a few cases. Nonetheless, I am confident in the overall consistency of the classifications outside of the expected random error.

The vast majority of paragraphs in the dataset were parsed by the author. However, several of the SHEEO reports were uploaded to Amazon Mechanical Turk (MTurk) for parsing by online workers. This platform provides researchers access to an online community of individuals who can complete human interface tasks for a low cost determined by the researcher requesting work. Using this service enabled the data to be processed into the appropriate form more quickly than would otherwise have been possible.

To utilize the MTurk service, SHEEO reports were uploaded to a Google Drive folder where they could be accessed by workers who accepted the task. Shareable links to

these files were then placed on MTurk as a task for workers to complete. Each worker

was given a link to a single SHEEO document and was asked to copy and paste each

paragraph into a spreadsheet file. Detailed instructions were provided along with the

task identifying the factors to be used in determining what entailed a paragraph. These

instructions also specifically mentioned what to do with graphics, tables, bulleted lists,

and other elements. Workers were also asked to collect general information about the

document, such as title, length, and year of publication. A full duplication of the Amazon

MTurk instructions is available in Appendix A.

All legislative data was parsed in the same manner, although no MTurk workers

were involved for this element. The single exception to the process described above was

legislative appropriations bills, from which only paragraphs related to higher education

were parsed. Many appropriations bills are hundreds of pages in length, while only a

small portion of them are dedicated to higher education. Accordingly, parsing only the

relevant segments of these bills ensured the dataset narrowly reflected attention to higher

education rather than government-wide appropriations. Though this decision required a

thorough reading of many appropriations bills in their entirety, it was deemed preferable

to coding the entire text of the bills and adding a great deal of noise to the data.

The other consideration that came up with regard to the legislative data that was

not needed for the SHEEO data was parsing bills which introduced to amend previously

existing legislation. These bills frequently included the text of the original law, some of

which would be struck through to indicate its removal in the proposed amendment.

When this occurred, the stricken text would be left out of the paragraph when it was

pasted into the dataset. This ensured the paragraph would read as intended by the bill's sponsor, rather than a combination of previous and current legislation. In sum, parsing the 923 documents from both the SHEEO and legislative datasets into paragraphs resulted in 9,918 observations to be topically coded for analysis.

Data Coding

Alongside the data collection process, methodological decisions also needed to be made regarding the topical coding scheme to be used for the analysis. The first step in this process involved looking through existing research to determine whether an appropriate coding scheme had already been developed by other scholars. However, all pre-existing coding schemes related to public policy included the full spectrum of policy issues, meaning they did not contain an adequate level of detail within the higher education topic. For example, the well-known Comparative Agendas Project[5] coding scheme developed by Baumgartner and Jones includes a single topic for all education policy, and one subtopic for policies related to higher education. Thus, this coding scheme lacks a sufficient level of detail to distinguish between topics in higher education. As a result, it was necessary to devise an original, more detailed, coding scheme for the project.

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[5] For more information on the Comparative Agendas Project and the coding scheme it uses, see the project website at www.comparativeagendas.net.

Development of the Coding Scheme

Despite the limitations of the Comparative Agendas coding scheme for the present purpose, the developers have provided a thorough accounting of the processes used in its creation. It is this framework that was used as the foundation for the development of the new higher education coding scheme. The key factor drawn from this example is the use of an identical coding scheme across datasets from different institutional sources (Baumgartner, Jones, and MacLeod 1998). Doing so allows direct comparisons to be made across institutions—in this case bureaucratic agencies and state legislatures. Furthermore, since the coding scheme does not rely on a single political institution, it ensures backward compatibility and reliability over time. Such a structure also allows for additional information to be added to the dataset as it becomes available without requiring edits to the coding scheme or reassessment of earlier data. Scholars have utilized coding schemes of this nature to study agenda setting in political institutions at all levels, both domestically and internationally (Baekgaard, Mortensen, and Bech Seeberg 2018; Baumgartner and Jones 1993; Baumgartner, Jones, and MacLeod 2000; Breunig, Koski, and Mortensen 2010; John and Jennings 2010; Mortensen 2009; Workman 2015).

Moreover, like the Comparative Agendas Project, the coding scheme was created substantively so it is useful across all stages of the policy process and in coding both types of data included in the project. This approach mirrors steps taken by other scholars in previous works of this type by focusing on the agenda topics themselves rather than

underlying structural dimensions (Jones and Baumgartner 2005b; Stimson 2004; Workman 2015). This distinction is an important one, as the two concepts measure very different aspects of political agendas. While underlying structures can tell us the orientation of various actors toward specific topics, they cannot lead to an understanding of the topics themselves, as is the focus here. Liberalism and conservatism provide an illustrative example of this difference. While general understandings of the two ideologies are highly useful in discussing party platforms and predicting opinions with regard to specific issues, they cannot be used to determine the issues on which a party or individual chooses to focus in the first place. Therefore, to learn about the items on political agendas and how they arrive there, we must concentrate on the topics themselves through substantive coding.

The final and most significant feature drawn from the procedures used by the Comparative Agendas Project is the delineation of topic codes into which the parsed paragraphs are categorized. The substantive topic variable is the primary element of the new coding scheme, making this a crucial step of the development process. Similar to the considerations involved with the decision to code at the paragraph level, a balance needed to be struck in terms of number of topic categories for coding. Too many topic codes would result in too few observations in each to perform a detailed analysis. Meanwhile, too few topic codes would result in highly diverse categories which would not be useful at the aggregate level. Additionally, the codes need to be clear and distinct enough to maintain reliability (Baumgartner, Jones, and MacLeod 1998). Thus, the

generation and iterative refinement of topic codes had to be done carefully to preserve the credibility of the project.

The first draft of the coding scheme was developed based on topics mentioned numerous times in the tables of contents of a sample of SHEEO reports. This sample included reports from the two states in the analysis as well as several others to ensure applicability across the higher education spectrum. Specifically, any item that was mentioned in the table of contents of at least two of these reports was added to a master list of section and subsection titles. From this list, the titles were combined and narrowed into more concise topic names which summarized related aspects of the reports. The author's prior knowledge of higher education policy served as an additional check on this process to ensure the topics were consistent with related discussions in the higher education literature.

Upon completion, the draft of the coding scheme was reviewed by other scholars with substantive expertise in higher education policy to ensure the topics included were both mutually exclusive and jointly exhaustive. These scholars were also specifically asked to review any topics that could be combined under a single heading rather than remaining as distinct topics, but did not feel any of the topics overlapped sufficiently to do so. Finally, the topic codes used were refined and updated through the first stages of language coding to ensure effective coverage of topics across both the SHEEO and legislative data. These iterations resulted in the addition of three topics which were not explicitly mentioned in the tables of contents of SHEEO reports but were nonetheless the

Table 3.1: Major Topic Codes

Topic	Numeric Code
No Substantive Higher Education Information	00
Academics	01
Access/Admissions	02
Accountability	03
Administration	04
Adult Education/Non-Traditional Students	05
Affordability	06
Athletics	07
Budgets/Resources	08
Community Engagement	09
Completion	10
Diversity/Equity	11
Economic Outcomes and Impacts	12
Enrollment	13
Facilities	14
Faculty and Staff Concerns	15
Goals/Master Plans	16
Graduate Education	17
Honors and Awards	18
International Students	19
Preparation and Remediation	20
Quality of Education	21
Research and Faculty Publications	22
Retention	23
Safety	24
Student Debt	25
Student Services	26
System-Level Matters	27
Technology	28
Transfer Students	29
Tuition	30

subject of a substantial number of paragraphs within them[6]. Later iterations of the codebook also contain slightly different topic labels than earlier versions, as a few labels were updated for the sake of clarity surrounding what is included in a given topic. The final codebook contains 30 major topic codes, which are listed in Table 3.1. A separate categorization was also created for paragraphs which included no substantive higher education information; paragraphs receiving this code were later removed from the analysis.

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[6] The three topics which were added after the initial draft of the coding scheme were Adult Education/Non-Traditional Students, Quality of Education, and System-Level Matters.

In addition to the major substantive topics, each paragraph was also coded with an associated subtopic to incorporate an even greater level of detail within each topic code. Some subtopics were added initially when the codebook was created, while others were added during the early stages of language coded as a need for them arose. When this occurred, a process similar to the major topic coding was carried out. No subtopic was added to the coding scheme until it appeared as the subject of multiple paragraphs across several SHEEO reports. There are varying numbers of subtopics associated with each major topic, but none includes more than eight subtopic categories. Table 3.2 displays the subtopics under the Academics topic code to provide an example of this secondary hierarchical level of coding, and the full codebook containing all subtopic codes is available in Appendix B.

Table 3.2: Subtopic Codes from Academics Category

Subtopic	Subtopic Code
Academic Competitions	101
Academic Departments/Programs	102
New Program Approval	103
Program Changes	104
Student Assessments	105
Textbooks	106
Courses and Registration	107

Topic Coding

The coding process, though tedious, was relatively straightforward. Each of the 9,918 paragraphs generated from the parsing process was read by the author and assigned a topic and subtopic code by hand. Topics were determined based on a general understanding of the content of each paragraph, which was further informed by the author's expertise in higher education policy. The topic coding scheme developed for the

project proved to be well-suited to the policy area, as it left little overlap between topics that could lead to inconsistencies in topic assignments.

In the case of paragraphs mentioning more than one substantive topic, the dominant one was chosen. Dominance was determined by the relative proportion of the paragraph focusing on each topic. For example, if three sentences of a five sentence paragraph focused on a given topic and the other two sentences focused on another topic, the first was considered dominant and was assigned as the main topic of the paragraph. This guideline served as an effective decision rule in almost all cases, leaving very little discretion in terms of choosing between primary and secondary topics.

To provide greater clarity about the structure of the data used in subsequent chapters, two examples of coded paragraphs are reproduced below. Each is typical of the paragraphs that might be seen in a SHEEO report or legislative bill, respectively. The first example is drawn from the Kansas Board of Regents annual report in 2017:

> "From 2012 to 2015 Kansas participated in the grant-funded Jobs for the Future initiative, *Accelerating Opportunity*, a career pathways program model assisting non-college ready students in obtaining a GED, while co-enrolled in, and earning industry-recognized credentials. Pathways are a minimum of 12 credit hours, courses are team taught with both a basic skills and career technical education instructor, and students are supported with supplemental instruction and wrap-around services. Throughout the initiative, Kansas community and technical colleges enrolled over 3,000 students in 30 career pathways, over 3,000 industry credentials were earned, and over 800 students self-reported employment."

The topic for this paragraph was coded as Adult Education/Non-Traditional Students, as the primary focus of the paragraph is on a program designed to help students

returning to academics to complete high school and postsecondary credentials. Although

there is some mention of completion and economic outcomes, these topics are

overshadowed by the discussion of the benefits of the program for non-traditional

students. While the major topic code for this paragraph was clear, the subtopic was a bit

more difficult to discern. Because the paragraph does not align well with any of the more

specific subtopics within the Adult Education/Non-Traditional Students substantive area,

it was assigned to the "Adult/Non-Traditional Education, General" subtopic[7].

The second paragraph provided below is a portion of Senate Bill 3803 of the Illinois

General Assembly in 2012. This bill, known as the College Completion Report Card Act,

was recommended for passage by the Senate Higher Education Committee but was never

taken up for debate on the floor of the chamber.

> "Section 5. College completion report card. (a) Within 3 months after the
> effective date of this Act, the Illinois P-20 Council shall collaborate with the
> Board of Higher Education, the Illinois Community College Board, and a
> consortia of private colleges and universities to convene a committee headed
> by the chairperson of the Illinois P-20 Council's Joint Educational Leadership
> Committee, whose purpose shall be to advise the P-20 Council on the
> development of a template for a college completion report card. The
> chairperson of the Joint Educational Leadership Committee shall be
> responsible for selecting members of the committee. The template for the
> report card shall be completed on or before January 1, 2014. After
> development, the Board of Higher Education and the Illinois Community
> College Board shall collaborate to collect data annually and publicly report

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[7] Most of the major topics in the coding scheme include a general subtopic such as this one to capture those paragraphs which do not fit well into any of the more detailed categories. This practice provides a method of categorization for these paragraphs and is consistent with other topical coding schemes used in political science research.

college completion metrics, as well as report to and advise the Illinois P-20 Council on progress."

This paragraph is emblematic of text seen in legislative proposals regarding higher education as well as the decisions made between topics of the coding scheme. The major topic code assigned to this paragraph was Accountability due to the focus on reporting college completion metrics to the state legislature and the public. The subtopic assigned was Data Collection and Metrics. Though the metrics requested are specific to another topic in the coding scheme (Completion), the goal of the legislation is understood to be the creation of a report card to be used for holding institutions of higher education accountable for helping students obtain a collegiate credential. There are only three mentions of completion in the paragraph, each of which is paired with language about the report card and metrics to be included. Thus, accountability was deemed the dominant topic of the paragraph and the category into which it was coded.

Additional Measures

Aside from the topic and subtopic codes described in detail above, several other measures were recorded for each paragraph. Some variables are related to the document as a whole, while others relate to individual paragraphs specifically. The document-level variables note basic information about the report or legislation. These include the title of the document (or bill number for legislation), the year in which it was published, the number of pages contained in the document, and the state to which it relates. Additionally, an indicator variable was included to distinguish between organizational types. Each source of data was assigned to one of three categories for this variable:

SHEEO–governing board, SHEEO–coordinating board, or state legislature. The SHEEO–governing board category contains all information from the Kansas Board of Regents, while the SHEEO–coordinating board category contains information from the Illinois Board of Higher Education. The state legislature category includes all legislative data from both states.

At the paragraph level, four additional variables were collected. The first was an indicator for charts, tables, figures, and graphics. This variable was simply coded one if the unit included any of these elements and coded zero otherwise in order to have a notation of these units in the full dataset. Secondly, I included a variable to measure unit length to use in weighting the paragraphs if necessary. The unit length variable was defined as a simple count of the number of sentences included in a given paragraph. Tabular paragraphs were measured in terms of the number of rows in the table. This variable is unavailable for graphics and figures, as there is no uniform way to determine lengths of this information. Finally, an indicator variable was included to note whether a paragraph was located in the executive summary of a SHEEO report or the abstract of a piece of legislation. This variable was included based on the assumption that these locations may be the most frequently read portions of a document. Knowing this, agencies and legislators are likely to consider them the most important sections, meaning the paragraphs found there may carry more weight than others or at least signal highly significant issues.

The final variables are only recorded for portions of the dataset due to the nature of what they measure. For legislative bills, this took the form of an ordinal variable

noting the bill's progress through the legislative process. This variable records whether a

bill was merely introduced and never taken up, was the focus of a committee hearing,

passed one or both chambers of the state legislature, or was signed into law by the state's

governor. Inclusion of this variable allows for an assessment of the types of information

which are more likely to survive legislative debates and votes in order to become law. For

SHEEO reports, an indicator variable was used to note whether a unit is included in a

letter or preface directly from the SHEEO. This variable was included for similar reasons

as the executive summary/abstract variable discussed above. Legislators often have

limited amounts of time to spend reading SHEEO reports, and thus may concentrate on

the summary provided by the leader of a higher education system as a heuristic for

learning the major themes highlighted by the report. As such, the variable was included

to preserve the ability to assess these paragraphs specifically for potential legislative

influence.

Descriptive Statistics

As mentioned above, the full dataset is made up of 9,918 topically coded

paragraphs from 923 documents. The breakdown of these paragraphs by organization is

as follows: 890 paragraphs were drawn from 6 annual reports of the Kansas Board of

Regents; 639 paragraphs came from the 5 reports of the Illinois Board of Higher

Education; 1,551 paragraphs made up 108 bills introduced in the Kansas State Legislature;

and the 804 bills introduced in the Illinois General Assembly accounted for the remaining

6,838 paragraphs[8]. Overall, the documents in the dataset contained an average of 10.75

paragraphs, though this differs greatly by organization type (see Table 3.3). Legislative

bills averaged 14.36 paragraphs per document in Kansas and 8.50 in Illinois. The SHEEO

reports, meanwhile, were typically much longer, as they represented a full year's worth of

information across the higher education spectrum. Accordingly, the average number of

paragraphs for a report by the Kansas Board of Regents was 148.33, while the average

number of paragraphs in the annual reports of the Illinois Board of Higher Education was

127.80. Paragraph length also differed across sectors, although to a much lesser extent as

shown in Table 3.4. The mean number of sentences per paragraph ranged from 1.72 for

the Kansas Board of Regents to 6.69 for the Kansas State Legislature, with both Illinois

institutions falling in the middle.

Table 3.3: Descriptive Statistics, Paragraphs per Document

	Kansas Board of Regents	Illinois Board of Higher Education	Kansas State Legislature	Illinois General Assembly	Overall
Mean	148.33	127.80	14.36	8.50	10.75
Median	142.5	171.0	7.5	2.0	3
Range	54	193	79	195	218
Standard Deviation	23.17	93.57	18.85	15.87	22.47
Total Paragraphs	890	639	1,551	6,838	9,918
Total Documents	6	5	108	804	923

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[8] The discrepancy in the number of bills between the two states over similar periods can be largely explained by the structure of the Illinois Compiled Statutes. While Kansas maintains a single law for most issues related to higher education, Illinois passes separate pieces of legislation to govern each university in the state as well as its community college system. This approach effectively requires multiple pieces of legislation to be introduced to make a change across all higher education in the state, whereas Kansas would need only one to accomplish this goal.

Of the 9,918 paragraphs in the dataset, 219 (2.21%) were identified as graphics, tables, or other non-text-based paragraphs. These paragraphs were found almost exclusively in the SHEEO data rather than introduced legislation. The KBOR reports included 144 coded figures while the IBHE reports contained 74. The final graphic paragraph came from a 2015 bill of the Kansas state senate and provided an example of what a degree prospectus required by the law might look like. The graphic based paragraphs in the dataset do not appear to be systematically different from the more traditional narrative paragraphs in any way other than their tendency to include more quantitative data.

Table 3.4: Descriptive Statistics, Paragraph Length

	Kansas Board of Regents	Illinois Board of Higher Education	Kansas State Legislature	Illinois General Assembly	Overall
Mean	1.72	2.08	6.69	2.39	2.98
Median	1	2	2	1	2
Range	10	9	65	67	67
Standard Deviation	1.42	1.48	12.08	2.77	5.57
N	890	639	1,551	6,838	9,918

In terms of the substantive topics, each was mentioned at least a small number of times by one or more of the institutions from which data was collected[9]. However, Table 3.5 shows there was a widely varying range of frequency, with Graduate Education receiving only three mentions and Budgets and Resources receiving just under four thousand. The measures of central tendency regarding the number of mentions per topic

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[9] For a summary of the overall frequency of appearance for each topic, see Table A.1 in Appendix C. Frequencies of appearance for each substantive topic within the four institutions in the dataset can be found in Tables 6.1 and 6.2 in Chapter Six.

for the overall dataset are somewhat skewed by the large number of bills introduced by

the Illinois General Assembly and its overwhelming focus on budgetary issues. For this

reason, descriptive statistics are also presented for each of the four organizations. These

statistics suggest each topic was mentioned approximately 20-30 times by the two SHEEO

agencies and much more often by the two legislatures (though, again, these statistics are

likely colored by the large amount of attention devoted to budgets and resources). The

descriptive statistics of mentions per subtopic (Table 3.6) paint a similar picture, with

more mentions on average by the two legislatures than the two SHEEOs. In this case the

overall mean was 90.88 mentions per subtopic, with a standard deviation of 39.26.

Table 3.5: Descriptive Statistics, Mentions per Major Topic

	Kansas Board of Regents	Illinois Board of Higher Education	Kansas State Legislature	Illinois General Assembly	Overall
Mean	28.71	20.61	50.03	220.58	319.94
Median	13	10	8	43	93
Range	178	123	856	2,934	3,936
Standard Deviation	42.16	27.72	154.28	548.62	714.74
N	890	639	1,551	6,838	9,918

Table 3.6: Descriptive Statistics, Mentions per Subtopic

	Kansas Board of Regents	Illinois Board of Higher Education	Kansas State Legislature	Illinois General Assembly	Overall
Mean	54.13	65.81	93.93	96.73	90.88
Median	48	49	122	115	107
Range	128	127	126	128	129
Standard Deviation	38.1	42.38	43.00	34.45	39.26
N	890	639	1,551	6,838	9,918

The final variable that relates to both portions of the dataset was an indicator of a

paragraph's location in a document. If a paragraph was part of the executive summary of

a SHEEO report or the abstract summarizing a piece of legislation, it was noted with this

variable. Overall, 830 paragraphs (8.37%) were part of an executive summary or bill

abstract. Surprisingly few SHEEO reports included an executive summary, meaning the

vast majority of these paragraphs were from the legislative portion of the dataset. In fact,

the only SHEEO report to include an executive summary was the 2013 report of the

Kansas Board of Regents, which accounts for six of the executive summary paragraphs.

The remaining paragraphs were all drawn from legislation—74 from Kansas and 750 from

Illinois. However, while the two SHEEO agencies did not often use executive summaries,

they did make slightly more frequent use of letters directly from the head of the agency.

Thirty-nine paragraphs originated from the executive officer, making up 3.15% (28

paragraphs) of the annual reports in Kansas and 1.72% (11 paragraphs) in Illinois.

Table 3.7: Legislative Bill Progress

	Kansas State Legislature	Illinois General Assembly	Overall
Total Bills Introduced	108 (100.00%)	804 (100.00%)	912 (100.00%)
No Further Attention	32 (29.63%)	526 (65.42%)	558 (61.18%)
Committee Hearing	38 (35.19%)	197 (24.50%)	235 (25.77%)
Passed One or Both Chambers	13 (12.04%)	32 (3.98%)	45 (4.93%)
Signed by Governor	25 (23.15%)	49 (6.09%)	74 (8.11%)

Lastly, the legislative portion of the dataset was coded according to how far a bill

made it through the legislative process. Of the 912 introduced bills, 558 (61.18%) received

no further attention after being introduced. This proportion was much smaller in Kansas

than in Illinois, as only thirty percent met this fate rather than sixty-five. On the other

end of the spectrum, a mere 74 bills (8.11%) made it through the entire legislative process

to be signed into law by the governor, approximately two-thirds of which were passed in

Illinois. Due to the sheer volume of bills introduced in that state, however, a higher proportion of introduced bills became law in Kansas than in Illinois. Table 3.7 above provides a complete summary of the progress of higher education legislation, both in general and in each state individually.

The data and measures introduced in this chapter will form the basis of the empirical analyses conducted in the chapters to follow. The primary variables of interest for the questions being addressed in this project are the major topic and subtopic codes assigned to each paragraph. In Chapter Four, I utilize these variables to gain an understanding of the topics of interest to SHEEO organizations and present on their agendas. This chapter includes a detailed discussion of the content of agency agendas and the extent to which the agencies are able to attend to a broad array of issues simultaneously. Chapter Five builds on this discussion by assessing the temporal aspects of SHEEO agendas through the volatility in the number of times a topic is mentioned from year to year. Finally, Chapter Six brings in the legislative portion of the dataset to examine the degree to which bureaucratic agendas align with and potentially influence the agendas of their state legislatures.

Chapter Four: Agenda Content and Diversity

At the core of any institutional agenda are the topics which get discussed. A large body of work in political science has shown there are a number of factors that can influence which topics obtain space on the policy agenda and which topics are left off. These factors range from external focusing events (Birkland 1997, 1998) to policy entrepreneurs actively seeking agenda space for particular policies (Cohen, March, and Olsen 1972; Kingdon 1995) to the attention of legislators (Baumgartner and Jones 1993; Zhu 1992) or the public (Cobb and Elder 1971, 1983). More recently, scholars have begun to consider bureaucratic agencies as an additional actor influencing agenda setting through the provision of information (Baumgartner and Jones 2015; Shafran 2015; Workman 2015).

Not all agencies were created equal in this regard, however. Some are much more effective than others at influencing the agendas of other political institutions. Yet few scholars have delved into the reasons for these differences, which I argue is largely due to the degree of institutional friction imposed on the agency by its structure and the extent to which this friction is alleviated through parallel processing of information. Specifically, I posit agency centralization is a key factor in determining the agendas of bureaucratic agencies and in turn how well they are able to influence policy agendas more broadly. The first and most instrumental way in which centralization influences the agenda setting capacity of public agencies is by determining the topics which are placed on the agenda of the agency itself. In this chapter, I discuss in detail the content and diversity of

bureaucratic agendas, how these factors are determined, and how they in turn affect the policy process in the states.

The first portion of this chapter provides a brief overview of the role of bureaucracies as providers of information to legislators and other policy makers. This is followed by an overview of the agenda content of the Kansas Board of Regents (KBOR) and the Illinois Board of Higher Education (IBHE), the two agencies used to assess the impact of the factors mentioned above. In this section, we see the two agencies have dramatically different agendas, devoting the majority of their attention to different topics and in different proportions. Following this, the chapter moves into an examination of the diversity of the two agency agendas; that is, the number of issues to which each agency is paying attention at a given time. I find the IBHE has a broader array of issues on its agenda than does the KBOR, both in terms of a simple comparison of the number of topics discussed and through the calculation of entropy scores of the diversity of each agenda. These findings indicate the decentralized nature of the Illinois governance board enables it to maintain attention on a wider breadth of issues than its Kansas counterpart, which may enable it to have greater impact on the policy process.

The latter section of the chapter considers agenda diversity from another perspective: whether greater breadth of attention comes at the cost of considering each issue in depth. Using an analysis of subtopics which mirrors the initial assessment of major substantive issues, I find this is indeed the case. The KBOR agenda, while narrower in scope generally, includes discussion of more subtopics within selected agenda topics. This finding implies the Kansas Board of Regents may not be as obsolete as an overview of

its agenda may suggest. Instead, the agency may simply be more influential on a smaller subset of substantive topics within the higher education policy area. Finally, the chapter concludes with a detailed summary of the findings and their implications for SHEEO agencies.

Bureaucracies as Information Providers

Before assessing the topics which appear on bureaucratic agendas, it is first necessary to establish the importance of these agendas to the broader policy process. As briefly mentioned in the introduction to this chapter, bureaucracies are a crucial provider of information into the policy process. The information brought forward by these agencies helps to define problems in ways that government can address (Dery 1984; Rochefort and Cobb 1994). However, bureaucracies are not the only organizations seeking to provide information to policy makers. A plethora of other actors—think tanks, interest groups, private corporations, non-profit organizations, and others—are also sending signals to legislators about policy preferences, each hoping to structure debate in a way consistent with its views.

In higher education policy, this may take the form of a national interest group pushing for specific actions to increase college completion, while a state think tank presents a study showing other policies may be more effective and the SHEEO argues neither plan would be cost-efficient and the state should continue using the measures already in place. In this example, each organization has the same goal in seeking to improve college completion rates, yet pressures the legislature to act in a very different

direction from the others. As a result, the SHEEO must compete with the other

organizations to convince legislators that its position is the most favorable.

However, recent research has shown that bureaucracies enjoy an advantage in this

process due to their longstanding relationships with legislators (Workman 2015;

Workman, Shafran, and Bark 2017). While interest groups and other actors rise and fall

over short periods, bureaucratic agencies interact with legislators over decades. This

endurance enables a relationship to be built in which legislators develop an

understanding of bureaucratic preferences. Furthermore, repeated interactions help

legislators become familiar with any biases contained in the information provided by

bureaucrats, allowing them to find use in the information despite some expected

inaccuracies. Because this familiarity is often lacking for other organizations,

bureaucracies enjoy favored status as a consistent and reliable source of information for

lawmakers. This status creates the potential for agencies to use the information and

expertise they possess to have a substantial impact on the policy process.

Content of Bureaucratic Agendas

Despite this advantage over other actors, there are limits to what information a

bureaucracy is able to provide. They are clearly unable to inform policy makers on all

topics at all times; they are constrained by the content of their own institutional agendas.

These agendas effectively dictate the topics on which agencies are capable of providing

useful information. If a particular topic is not on an agency's agenda, bureaucrats are

unlikely to be well-informed with the most up-to-date information. The longer an issue

is considered non-salient, the bigger this gap in relevant expertise becomes. Conversely, bureaucratic officials are much more likely to be equipped to answer questions regarding issues that have been considered priorities for their agency. In this sense, institutional agendas within the bureaucracy play an indirect but important role in affecting the information available in the policy process.

These agendas are in turn shaped by a variety of factors within the agency itself. The major constraint of bureaucratic information provision is the institutional friction imposed by an agency's structure. These costs—defined as information, cognitive, decision, and transaction costs by Jones, Sulkin, and Larsen (2003)—are inherent in any organizational action, but to varying degrees. The extent to which these costs are felt by an agency is dependent on the organizational structure of the bureaucracy in question, most specifically its level of centralization. In highly centralized organizations, information must travel vertically through the chain of command before being released to external audiences, creating more friction points at which information can be stalled. In less centralized environments, however, information can be assessed and publicized from several points within the agency, allowing for a smoother path to actors outside the organization.

This smoother path is made possible by parallel processing, which helps to alleviate the scarcity of attention that affects decision makers of all types (Jones and Baumgartner 2005b; Simon 1983; Zhu 1992). Many decentralized agencies are able to alleviate this limitation by dividing labor among specialized subunits, which are then able to maintain attention to several distinct streams of information at once (Jones 2001;

Simon 1983). This approach thereby expands the limits of attention within the organization, allowing it to attend to a greater number of issues than it would otherwise be able. However, an agency's limits of attention cannot be expanded indefinitely. An organization's capacity still has its bounds, meaning the topics on a bureaucracy's agenda remain limited, as does the information the agency can provide to policy makers outside the organization. Furthermore, because these limitations are likely to manifest differently in varied policy environments, I expect to see unique topics on the agendas of higher education boards in each state. A brief review of the most common topics on the SHEEO agendas in Kansas and Illinois shows this to indeed be the case. Figure 4.1 displays the content of each of these agendas, revealing a focus on widely varying topics by the different organizations.
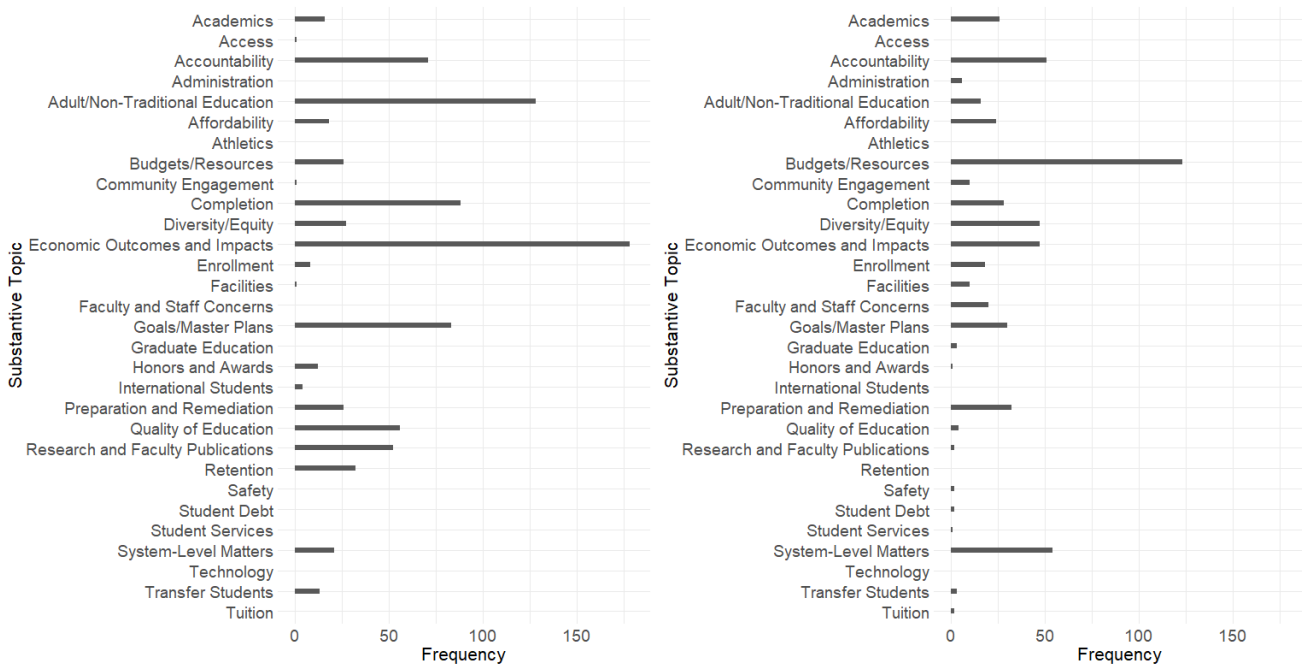
(a) Kansas Board of Regents   (b) Illinois Board of Higher Education

Figure 4.1: Content of SHEEO Agendas.

For the Kansas Board of Regents, the most frequently discussed topics were the economic outcomes and impacts of higher education, adult education/non-traditional students, and completion, as seen in Figure 4.1a. Each of these three items made up more than ten percent of the agency's agenda for the years included in the study (20.65%, 14.85%, and 10.21%, respectively). Other common topics were goals and master plans for statewide higher education (9.63%) and accountability (8.24%). Each of the remaining topics made up seven percent or less of the institutional agenda.

At the other end of the spectrum, nine topics went unmentioned in any of the Kansas Board of Regents annual reports. Some of the neglected topics easily make sense upon closer consideration, while others are more surprising in their omission. For example, the statewide governance board not including detailed discussions of student services or athletics suggests the agency has chosen to leave these concerns up to the individual institutions rather than address them at a systemwide level. However, the state agency appearing uninterested in faculty and staff concerns, graduate education, or tuition is not only more surprising, but also somewhat concerning. Nonetheless, the Kansas SHEEO agenda shows these are simply not priorities for discussion of higher education at the state level.

Meanwhile, the topics on the agenda of the Illinois Board of Higher Education form a very different distribution. Figure 4.1b shows the most common topic on the agenda was by far budgets and resources, which accounted for 21.89% of SHEEO agenda. Following this, the primary topics of discussion were system-level matters (9.61% of the

institutional agenda), accountability (9.07%), diversity/equity and economic outcomes and impacts of higher education (8.36% each). No other topic made up more than 5.5% of the IBHE agenda, with many garnering only a handful of mentions[10].

Like in Kansas, there were several topics that were not discussed by the SHEEO at all over the five-year period examined. In the case of Illinois, the five unmentioned topics were access/admissions, athletics, international students, retention, and technology. While one may normatively expect the state SHEEO to express some level of attention to access/admissions issues and the education of international students, this list as a whole seems much less troubling than the unmentioned substantive topics from the Kansas SHEEO.

Overall, the data shows a clear difference between the discussions of the Kansas Board of Regents and those of the Illinois Board of Higher Education. Though two of the five most common topics in each state overlap, the proportions of the agenda devoted to each topic are drastically different. Perhaps even more telling is the disparity in which topics went unmentioned entirely over the course of several years. The varying topics on these lists demonstrates the governance body in each state has unique priorities compared to its counterpart, which may arise at least in part from the differences in their structural capacities.

In addition to the visual evidence shown in Figure 4.1 and an overview of the most commonly discussed topics in each state, I also confirmed these differences statistically

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[10] Twelve substantive topics were mentioned ten or fewer times in the IBHE annual reports, each accounting for less than two percent of the agency's institutional agenda.

using a chi square test[11]. The results of these tests showed the two agendas are significantly different from one another in a statistical sense. These results corroborate the dissimilarities seen in Figure 4.1, suggesting the structural differences between these organizations may be related to the creation of agenda content within them.

As can be seen through this brief review of agenda content from the higher education governance bodies of two states, the informational environment surrounding higher education policy is not constant across contexts. Rather, each state's governance organization focuses on a unique set of substantive topics, resulting in different information being available to legislators seeking to introduce bills. For example, the Kansas state legislature would have no trouble obtaining information about retention efforts being made by the colleges and universities in the state, as the topic makes up nearly four percent of the SHEEO's agenda. The same concern in Illinois would be met with the bureaucratic equivalent of a blank stare, as the topic has not obtained space on the SHEEO agenda in at least the past four years. Conversely, the Kansas legislature would find it difficult to obtain bureaucratic information pertinent to tuition levels, faculty and staff concerns, student debt, or graduate education; each of these topics went unmentioned by the Kansas Board of Regents but were discussed as part of the agenda of the Illinois Board of Education, meaning they would be more accessible to the legislature in that state.

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[11] The result of this statistical test was highly significant and had a p-value of 0.006. This significance held in a second test based on 10,000 simulated replications of the data, suggesting the differences between the topics discussed (and not discussed) in the two states are stark.

As shown through the brief examples above, the differences in content between bureaucratic agendas can have a tangible impact on the policy process. Due to the reliance of legislators on bureaucratic information, some topics may be off-limits to the legislature simply because the bureaucracy cannot provide the needed information to support policy choices. Thus, the content of bureaucratic agendas is an important—though certainly underappreciated—determinant of policy debates.

Bureaucratic Agenda Diversity

Not only is the content of bureaucratic agendas significant for policy making, but so is the breadth of topics they contain. Agendas comprised of information related to a wider array of topics are likely to be utilized differently in the policy process than agendas which are narrowly concentrated on a few topics. The more items that are present on an agency's agenda, the more issues on which bureaucrats will be prepared with relevant information to provide to legislators and other policy makers. As such, broader agendas may be more impactful in the policy process than narrower ones.

Once again, these differences are not random. Instead, they are affected by factors within the bureaucracy itself, namely institutional friction and the ability to parallel process through subunits. A highly frictional environment makes it much more difficult for an agency to gather and process large amounts of information quickly, thereby limiting the diversity of an institution's agenda. A less frictional setting, meanwhile, allows smoother processing of multiple streams of information, enabling a wider array of topics to be considered by an organization through parallel processing.

Parallel processing varies greatly between organizations, with some dividing labor across a large number of units while others direct all information through only a few divisions. Those which are capable of processing multiple streams of information simultaneously are naturally going to have a wider array of substantive issues on their agenda at any given time as a direct function of the number of units operating within the agency. Accordingly, it is these agencies which are likely to enjoy more diverse agendas and potentially more success in defining problems and setting the legislative agenda.

I argue that the key factor in determining an agency's ability to parallel process in this way is centralization. Highly centralized institutions have a hierarchical organizational structure in which all decisions must be funneled through a single individual or small group of leaders at the top. Less centralized organizations, meanwhile, are free to have several avenues of decision making operating simultaneously. As a result, less centralized agencies can focus on a larger number of substantive topic areas at once. In the case of higher education bureaucracies, I expect this to translate to governing boards having the most concentrated agenda. These boards are the most centralized type of governance structure, as they represent a single unified voice for higher education in the state. Coordinating boards, then, should have a broader range of focus to correspond with their lower degree of centralization. Thus, I hypothesize that coordinating boards will have more diverse institutional agendas than will governing boards.

Assessing Diversity

To test this hypothesis, I rely on methods similar to those used in other studies of policy agendas. The universal nature of the coding scheme described in the previous chapter allows for backward compatibility and reliability between institutions (Baumgartner, Jones, and MacLeod 1998). Accordingly, the methodology used to measure the diversity of each agenda relies on distributional representations of the data to illustrate the agenda dynamics for each governance body. Following the assessment of agenda content discussed above (shown in Figure 4.1), I turned to measures of dispersion among agenda topics to examine the diversity of the SHEEO agendas.

The key measurement I use to complete this analysis is Shannon's H diversity index, which measures the degree of spread among items in a series (Shannon 1948; Shannon and Weaver 1949). These entropy scores were originally used in the business literature to assess corporate market shares, but have also been used by political scientists for the study of institutional agendas (Baumgartner, Jones, and MacLeod 1998). Furthermore, entropy scores have been shown to be useful in measuring agenda diversity as they are used here (Boydstun, Bevan, and Thomas 2014). A higher entropy score indicates greater dispersion among topics on the agenda, meaning an organization maintains attention to a larger number of issues. The maximum entropy score in the present analysis would be 3.40 if attention were perfectly even across the thirty major topics[12]. On the other end of the spectrum, a lower entropy score signifies a highly

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[12] The maximum entropy score is equal to the natural log of the number of potential items. With 30 potential topics for consideration on SHEEO agendas, the maximum entropy score is equal to the natural

concentrated agenda which focuses on only a few substantive topics. A score of zero

would be assigned if an agenda contained discussion of only one topic with no variation.

According to the expectations laid out in the previous section, the findings should

show that the most centralized SHEEO agencies have the lowest entropy scores. Because

of the high level of centralization present in governing boards, the Kansas Board of

Regents is likely to have the lower entropy score of the two agencies in the analysis. The

Illinois Board of Higher Education, as a coordinating board with a moderate degree of

centralization, should have an entropy score somewhat higher than its counterpart in

Kansas.

Table 4.1: Diversity of Bureaucratic Agendas

Organization	Entropy Score
Kansas Board of Regents	2.52
Illinois Board of Higher Education	2.65

The entropy scores of each institutional agenda are shown in Table 4.1. As

expected, the Kansas Board of Regents agenda is less diverse with an entropy score of

2.52. The Illinois Board of Higher Education has a more diverse agenda, with an entropy

score of 2.65. Though the magnitude of differences between these scores may seem

inconsequential, when considering these differences on a scale ranging from zero to 3.40

they are quite substantial.

If the four percent difference between these two scores were applied to specific

agenda items, the agendas of the two states would look drastically different. Added to the

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log of 30, or 3.40. For further details about this calculation see (Boydstun, Bevan, and Thomas 2014; Jennings et al. 2011).

discussion of economic outcomes of higher education in Kansas, an increase of this magnitude would shift enough attention toward this topic to eliminate discussion of any of fourteen substantive topics entirely. Among these topics is budgets and resources, the most commonly discussed topic in Illinois. If added to a less common topic such as system-level matters, this same four percent change could more than double its mentions in the SHEEO's annual reports. Doing so would cause it to leap from the twelfth most common topic (near the middle of the ranked agenda items) to seventh (in the highest quartile of mentions).

In Illinois, a change of this magnitude would create similar shifts. A four percent change would be enough to double or eliminate seventeen substantive topics, including such important discussions as affordability, enrollment, faculty concerns, and tuition. If this increase were added to the most common topic—budgets and resources—the discussion would make up nearly a quarter of all paragraphs in the annual SHEEO reports on its own. Due to the relative equality among many of the topic areas on the agenda, almost every substantive issue would move at least three to four places in the ordering of topics by frequency given an addition or subtraction of four percent of the agenda[13].

More broadly speaking, the ordering of these entropy scores across institutions is also important. First, the findings were consistent with expectations in that the organization operating with a coordinating board structure indeed has a less diverse agenda than the state utilizing a coordinating board structure. These results are

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[13] The one exception is the Budgets and Resources topic, which is discussed substantially more often than any other topic by the Illinois Board of Higher Education.

supportive of the notion that centralization matters in defining the boundaries of an institution's agenda. More centralization in an agency's structure appears to increase the amount of institutional friction it experiences and result in greater limitations on information processing capacity. Less centralized organizations, then, are able to enjoy more flexibility in determining their agendas due to the low amount of friction present in the decision-making environment. In this sense, the differences in agenda entropy demonstrate the validity of Hammond's early work on organizational structure: because structures are key determinants of what options are considered and in what sequence and by whom, "a particular organizational structure is, in effect, the organization's agenda" (1986, 382).

While the variation in content and diversity between the two SHEEO agendas is easy to discern, this difference is by no means a trivial one. An agency with a broader agenda is able to process a more diverse array of information, developing expertise on a wide range of policy issues rather than focusing narrowly on a few significant topics. These differences become clear in examining the two SHEEO agendas considered here; the Illinois Board of Higher Education discussed 25 of the 30 potential substantive topics, whereas the Kansas Board of Regents discussed only 21. This means there are four additional policy areas in which the KBOR is unable to contribute to policy debates in the legislature, some of which could have significant impacts for the state's system of higher education. The IBHE, meanwhile, has maintained attention to the majority of issues that the legislature might consider when making policy related to higher education.

Therefore, when any of these issues experience a sudden increase in salience, the agency is prepared to provide relevant and timely information regarding the issue.

The ability to provide such information is a significant factor in determining an agency's role in the public policy process. Clearly, if an agency is unable to participate in discussions about an issue, it will not have a strong voice in the room when a decision is being made. In fact, it may not even be able to obtain a seat at the table without earning its way there through the provision of background information on the topic at hand. If this occurs, other interested parties will happily step in to fill the void, effectively eliminating the bureaucracy from the conversation altogether and causing any potential influence it may have had to vanish. In effect, the more silent an agency becomes, the easier it is for policy makers to ignore.

On the other hand, an agency that is well-versed on a variety of substantive topics is in a much better position to take part in defining policy issues to be addressed as well as suggesting the solutions to address them. Because of this, agencies whose agendas are characterized by a higher degree of diversity can be expected to have a greater role to play in the policy process. Not only can such an agency use the expertise it possesses to inform discussions that are already being had in the legislature and encourage certain policy proposals over others, but it can also bring up issues that may not otherwise be considered. In guiding legislators toward consideration of particular issues that may need attention, the agency is able to play a role in setting the agenda itself rather than merely advising on issues already of interest. Furthermore, because of the diversity of the institution's agenda, these influences are not limited to a subset of relevant issues but can

carry across the spectrum of policies relevant to its policy domain. Over time, legislators come to rely on this expert information, all but guaranteeing the agency a privileged position in problem definition, agenda setting, and policymaking discussions.

Accordingly, the diverse agendas employed by decentralized organizations create an informational advantage over more centralized agencies. This expertise can then be translated into information provision to legislators or other policy makers, thereby magnifying the impact the agency can have on the policy process. In this way, the difference in agenda diversity across SHEEO structures is a nontrivial one. The governing board structure of the Kansas Board of Regents can to some extent be viewed as a limitation of that agency's ability to set the policy agenda related to higher education. The coordinating board structure used by the Illinois Board of Higher Education, meanwhile, allows the agency to maintain attention on a fuller set of issues related to higher education. This breadth of attention in turn grants the agency greater potential for influence in both problem definition and agenda setting.

Agenda Breadth vs. Depth

Though the varying degrees of diversity in SHEEO agendas are important in their own right, these differences alone do not tell the full story. In fact, they bring additional questions along with the answers they provide. The most pressing of these questions is the implications of diversity for the issues that are part of the institutional agenda. For instance, does the more concentrated agenda of the Kansas Board of Regents mean the agency is producing less information overall or simply that they are focusing more deeply

on a smaller number of issues? If the former is true, agencies with narrower agendas can be expected to have a smaller impact on the policy process through their provision of information. If the latter proves to be the case, however, agencies with narrower agendas could have greater influence on a subset of substantive issues and a similar extent of influence on policy in the aggregate.

To answer this question, I utilize the subtopic codes that were assigned for each paragraph in the SHEEO reports. These codes provide an additional level of detail about the issues being considered by the agency and can indicate the ways in which major topics were discussed. For an agency with a smaller number of topics on the agenda, it would seem reasonable that a greater variety of subtopics are mentioned within each of the major topics on the agenda. Meanwhile, an agency with a broad agenda may only focus on particular elements of the major topics they address, rather than examining each associated subtopic. As such, I expect the data to show the narrower agenda of the Kansas Board of Regents contains a fuller array of subtopics within significant topic areas. The broader agenda of the Illinois Board of Higher Education, meanwhile, should be limited to only a few subtopics within a given policy area.

I assess this relationship by analyzing the number of mentions of each subtopic within four major topics: budgets and resources, economic outcomes and impacts of higher education, preparation and remediation, and affordability. The first two of these topics were selected because they make up the most common discussion in the SHEEO reports from each state. Due to the frequency with which these topics were discussed, they provide the best opportunity to examine the relative depth and breadth of the

institutions' agendas. The latter two major topics were selected for deeper analysis

because they were discussed with moderate frequency by both SHEEO organizations,

allowing for a direct assessment of agency preference for depth or breadth regarding a

topic within the constraints of a similar proportion of discussions. Furthermore, the

frequency of these topics allows them to be broken down into subtopics while

maintaining a sufficient sample size in each group. After a brief overview of the subtopics

in each group, I calculate entropy scores within these issues (displayed in Table 4.2

below) to determine which agency agendas reflect the greatest breadth on the specific

topics.

Subtopic Diversity within Most Common Topics

The budgets/resources major topic category is broken down into seven subtopic

categories. These subtopics are: Appropriations; Budget Proposals/Budget Process;

Endowments; Expenditures; Financial Concerns; Revenues; and Other Financial

Mechanisms/General Budgeting Issues. Each paragraph coded as focusing on budgetary

issues was also coded into one of these smaller subtopics. No paragraph was associated

with two subtopics; in the case where multiple subtopics were discussed in the paragraph,

the dominant subtopic was assigned.

In the annual reports of the Illinois Board of Higher Education, budgetary matters

were the most common topic of discussion, accounting for just over twenty percent of the

paragraphs contained in the agency's annual reports. These mentions were nearly evenly

divided among the Appropriations, Budget Proposals/Budget Process, and Revenues

subtopics (which made up 31.71%, 35.77%, and 26.02% of the budget discussions, respectively). The remaining paragraphs were coded into Financial Concerns and Other Financial Mechanisms/General Budgeting Issues, with no mentions of either Endowments or Expenditures. This resulted in an entropy score of 1.28[14].

The Kansas Board of Regents focused much less attention on budgetary matters in general, as these discussions were the focus of only three percent of the paragraphs in the annual reports. Additionally, all of the Budgets/Resources paragraphs are concentrated into three subtopic categories: Endowments, Financial Concerns, and Revenues. Within these three, Endowments and Revenues easily made up the majority of the discussion (50.00% and 42.30%) while Financial Concerns were only mentioned a few times (7.70% of budget-focused paragraphs). None of the other four subtopic codes were used in any of the governing board reports. As a result, the entropy score for the Kansas Board of Regents—0.91—is lower than that of the Illinois SHEEO, suggesting less diversity among subtopics, at least related to budgetary matters.

This result is unsurprising, given the discrepancy in how frequently the two boards discussed budgets and resources. Because the Illinois coordinating board focused so much attention on budgetary matters, there was plenty of room on the institutional agenda to consider things like the budgetary process itself, which was never mentioned by the Kansas governing board. Meanwhile, the Kansas SHEEO was primarily focused on

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[14] The range for entropy scores in this case was 0.00 (all mentions were related to a single subtopic) to 1.95 (with mentions evenly distributed across the seven subtopics).

other substantive topics, meaning budgetary discussions were brief and focused on only a few major concerns.

In looking at the Economic Outcomes and Impacts topic code, it is reasonable to expect the opposite. This was the most common topic of discussion in the Kansas Board of Regents annual reports (accounting for 20.65% of all paragraphs) but ranked fifth on the list for the Illinois Board of Higher Education (8.36% of the institutional agenda). In this case, paragraphs were categorized into one of eight subtopic codes: Business Incubators and Auxiliary Organizations; Economic Impacts on the State/Alignment with State Economic Needs (General); Migration of Educated Workers; Post-Degree Employment for Graduates; Professional Licensure; Specific Fields Emphasis (such as STEM education, healthcare degrees, etc.); Career Technical/Vocational Education; and Workforce Development.

Curiously, the data show the Illinois coordinating board actually discussed more of the subtopics in this substantive area than did the Kansas governing board—IBHE covered six of the eight subtopics, while KBOR discussed only five. Yet, the entropy score for the Kansas Board of Regents (1.51) is higher than that of the Illinois Board of Higher Education (1.44)[15]. This somewhat contradictory finding suggests the Kansas governing board has greater breadth of discussion regarding the economic outcomes and impacts of higher education, but only slightly. Although the Illinois board discussed more subtopics overall, a plurality of the conversations surrounded Career Technical/Vocational

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[15] With eight potential subtopics on the agenda, the maximum entropy score for the economic outcomes and impacts topic code is 2.08.

Education (44.68% of economic outcomes mentions). In Kansas, the board discussed a range of topics more frequently: Economic Impacts on the State accounted for 34.27% of economic conversations, followed by Specific Fields Emphasis (26.97%), Post-Degree Employment (15.17%), and Career Technical/Vocational Education and Workforce Development (11.80% each).

In terms of agenda diversity within substantive areas, these two topics are quite instructive. The primary topic of discussion represents approximately twenty percent of the SHEEO agenda in each state, suggesting they are viewed with a similar degree of importance. Furthermore, both topics are characterized by a substantial degree of diversity in the state where they are most common. Indeed, the entropy scores for budgetary issues in Illinois and economic concerns in Kansas fall into comparable ranges of their potential distributions—the 66th percentile and the 73rd percentile, respectively. In this sense, the data show increased attention to a topic enables a fuller discussion of its various aspects.

Beneath the surface level, however, these distinctions are not so clear cut. In terms of budgets and resources, the agenda of the Illinois Board of Higher Education is substantially more diverse than the agenda of the Kansas Board of Regents. The KBOR entropy score falls into the 47th percentile of the possible range, whereas the IBHE score is in the 66th percentile. This difference is much less stark when looking at the economic outcomes subtopics. In this case, the KBOR entropy score is in the 73rd percentile of the possible range of scores, which is only slightly higher than the IBHE score in the 69th percentile. Viewed through this lens, the Illinois coordinating board's agenda appears to

have greater breadth overall than the Kansas governing board's agenda. The IBHE

agenda is characterized by a fair amount of diversity among subtopics being discussed

regardless of whether the subtopics in question are related to a significant issue area or a

less frequently mentioned topic, whereas the KBOR agenda only demonstrates diversity

for the issues in which the organization has a strong interest. To further examine this

implication, I now turn to an analysis of topics that were not at the top of either SHEEO's

agenda: preparation and remediation, and affordability.

Table 4.2: Entropy Scores within Selected Topics

SHEEO Agency	Budgets and Resources	Economic Outcomes and Impacts	Preparation and Remediation	Affordability	Overall Entropy Score
Kansas Board of Regents	0.91	1.51	1.49	1.33	2.52
Illinois Board of Higher Education	1.28	1.44	1.30	1.31	2.65
Maximum Entropy Score	1.95	2.08	1.79	1.79	3.40

Subtopic Diversity among Equivalent Topics

Neither preparation and remediation nor affordability was a frequent discussion in

the annual reports of either SHEEO agency. Preparation and remediation ranked sixth

among the thirty substantive topics in Illinois and tenth in Kansas. Affordability,

meanwhile, was discussed even less often, ranking tenth in Illinois and twelfth in Kansas.

Despite these differences in ranking, the two topics made up approximately equal

proportions of the institutional agenda of both SHEEOs. For this reason, they are prime

choices for a direct comparison of agenda breadth and depth between the two states, as

they can highlight the differences in how each agency allocates the same proportion of attention to a given topic.

The preparation and remediation topic code is divided into six subtopic codes: Preparation, General; Academic Standards (High School and Incoming College); High School Preparation and Graduation Rates; K-20 Councils/Alignment with K-12 System; Remediation Rates and Programs; English as a Second Language (ESL) Students and Programs. The Kansas Board of Regents discussed each of these subtopics except for Remediation Rates and Programs, with a plurality of mentions focused on High School Preparation and Graduation Rates (35.71% of preparation and remediation topic) and Academic Standards (17.86%). The entropy score for the KBOR was 1.49 (out of a maximum 1.79). The Illinois Board of Higher Education only discussed four of the six subtopics, leaving out Remediation Rates and Programs as well as ESL Students and Programs. The most commonly discussed subtopics were again High School Preparation and Graduation Rates (43.75% of preparation and remediation topic) and Academic Standards (21.88%). For Preparation and Remediation discussions in Illinois, the entropy score was 1.30. This somewhat lower score indicates the Kansas governing board has a slightly broader agenda than the Illinois coordinating board with regard to student preparation and remediation issues.

With regard to the Affordability substantive topic, paragraphs were again coded into one of six subtopic categories: Financial Aid/Student Costs/Affordability (General); Merit-Based Scholarships; Need-Based Scholarships; State and Federal Grant/Scholarship Programs; Students Receiving Grant Aid; and Work-Study Programs. In Kansas, neither

the Merit-Based Scholarships nor the Work-Study Programs subtopics were discussed.

Instead, most of the agency's attention was focused on Students Receiving Grant Aid

(38.89% of affordability paragraphs), Financial Aid/Student Costs/Affordability (General),

and Need-Based Scholarships (22.22% each). This distribution resulted in an entropy

score of 1.33 (again out of a maximum of 1.79 with six subtopics). In Illinois, the only

Affordability subtopic that was not discussed was Students Receiving Grant Aid.

Discussions of affordability in the IBHE annual reports were dominated by State and

Federal Grant/Scholarship Programs (50.00% of paragraphs focused on affordability),

followed by Financial Aid/Student Costs/Affordability (20.83%), and Work-Study

Programs (16.67%). This pattern of subtopics resulted in an entropy score of 1.31, meaning

the Illinois SHEEO agenda was again less diverse than the agenda of its counterpart in

Kansas, but by a very slight margin.

When one state's SHEEO discussed a topic dramatically more than the other, the

state devoting more attention to the issue was able to consider a much broader array of

subtopics. Once this difference in frequency was removed, however, the governing board

in Kansas was capable of maintaining attention on more aspects of issues than was the

Illinois coordinating board. In both cases of issues with approximately equal proportions

of attention by the two boards, the Kansas Board of Regents was characterized by more

agenda diversity, as indicated by higher entropy scores. Though the difference was

small—especially in the case of the Affordability topic—these results are suggestive of

greater depth of consideration of topics on the KBOR agenda. Thus, the limitations

created by the centralization of a governing board structure appear to be at least

somewhat compensated for by the depth with which the agency is able to consider the topics which do obtain space on its agenda. Given this relationship, it stands to reason that an issue may have a harder time getting the attention of the SHEEO agency in Kansas, but can enjoy fuller consideration once it has done so due to the agency's attention to multiple facets of the issue.

Conclusions

The primary question addressed in this chapter has been whether the structure of a bureaucratic agency conditions the content and diversity of its institutional agenda. In sum, the findings have shown that it does. First, the Kansas Board of Regents and the Illinois Board of Higher Education focus on vastly different issues within higher education, despite being charged with similar responsibilities. While the KBOR was primarily focused on the economic outcomes and impacts of higher education on the Kansas economy, the IBHE was largely preoccupied with budgetary concerns about the resources available to the institutions of higher education in the state. Additionally, only two of the five most common topics in each state overlapped: economic outcomes and impacts, which was the most frequent topic in Kansas and the fifth most frequent in Illinois; and accountability, which was the second most common topic in Illinois and the fifth in Kansas.

On the other end of the spectrum, both SHEEOs also left several topics entirely unattended. For the KBOR, there were nine of these topics: administration, athletics, faculty and staff concerns, graduate education, safety, student debt, student services,

technology, and tuition. For the IBHE, only five topics were not mentioned in the annual reports: access and admissions, athletics, international students, retention, and technology. Again, only two of these topics were the same across the two SHEEOs. On a basic level, then, these differences in most and least commonly discussed topics for each state's SHEEO show there is quite a bit of variation in the content of their institutional agendas.

This difference was further demonstrated by the diversity of topics included in these agendas. As expected, the Illinois coordinating board enjoyed the ability to process information related to a broader array of substantive topics than did the Kansas governing board. The Shannon's H diversity index produced an entropy score of 2.65 for the IBHE but only 2.52 for the KBOR. The significance of this difference is substantial: changes of this magnitude applied to individual topics would dramatically alter the distribution of issues mentioned by each agency, including potential elimination of some topics altogether. The implications of the varying degree of diversity in each agenda are even more striking. Due to its ability to remain informed on a number of topics beyond what the Kansas Board of Regents is able to do, the Illinois Board of Education is better situated for impacting the policy process in the state legislature. The informational advantage it enjoys can be used to not only influence the choice of policy options for issues already being considered, but may also enable the IBHE to focus legislative attention on new or emerging issues that may otherwise go unnoticed. In this sense, agenda diversity may actually translate into direct impact on problem definition and agenda setting on issues related to higher education.

Though this initial analysis paints the choice of a governing board structure in a negative light, agenda breadth may not tell the full story. Instead, the choice may be more of a tradeoff between breadth of issues discussed and the depth with which they are considered as tested in the secondary analysis of this chapter. Through an examination of each SHEEO's agenda at the subtopic level, it was revealed that a narrower agenda indeed leaves room for more detailed discussion of the topics at hand. While the IBHE discussed more major topics, it did so only briefly and with regard to fewer subtopics than did the KBOR. Notwithstanding issues that were significantly more common in one state than the other, the Kansas governing board discussed more subtopics than did the Illinois coordinating board for topics receiving relatively equal proportions of attention between the two states.

This relationship suggests that while the Kansas Board of Regents discusses fewer major topics overall, it does so in a more detailed manner for the topics that do achieve agenda space. It stands to reason then that for these topics, the agency possesses a substantial amount of information and expertise that can be provided into the policy process. This expertise largely goes far beyond what the IBHE can contribute to similar discussions in that state given its limited consideration of each topic. As such, it may not be the case that the KBOR is insignificant in discussions surrounding higher education in the state of Kansas, but that its influence is simply concentrated on a smaller subset of issues than is seen for the IBHE. In this case, neither structure can be considered more effective than the other; it is merely a matter of which conversations one wishes the agency to be a part of and to what extent.

In summary, this chapter explored the degree to which institutional friction impacts the content and diversity of bureaucratic agendas, finding that it does so in nontrivial ways. The key hypothesis of the chapter was affirmed in that the more centralized agency experiences a greater degree of institutional friction and, as a result, is forced to attend to fewer substantive topics. Specifically, the agenda of the Kansas Board of Regents was substantially less diverse over the period in question than was that of the Illinois Board of Higher Education (at least in terms of major topics). All is not lost for a highly centralized agency, however, as the KBOR appeared able to make up for some of what it lost in breadth by pursuing greater depth with regard to the subset of topics on its agenda. When assessing subtopics, the governing board structure allowed for discussion of a fuller array of information within a major topic than did the coordinating board structure. As such, the findings presented in this chapter lead to a somewhat mixed conclusion: while a decentralized agency is able to consider a broader array of substantive policy areas, a more centralized one does so with greater depth for those issues which are able to obtain space on its agenda.

Although these findings are interesting to consider, they by no means tell the full story of institutional agendas in the bureaucracy. This chapter has merely considered each SHEEO's agenda as a whole, focusing on which topics were discussed and the proportions of attention they received. In practice, however, these agendas do not remain static over time. Instead, the topics mentioned and the discussions surrounding them are apt to change from one year to the next, even within the same organization. This is an essential element for understanding the dynamics of bureaucratic agendas, as

these changes also affect an agency's ability to influence legislative agenda setting and

public policy more broadly. As such, the next chapter takes into account the temporal

aspect of bureaucratic agendas by assessing the degree of volatility among substantive

topics considered by the two SHEEO agencies each year.

Chapter Five: Agenda Volatility

The previous chapter showed the agendas of SHEEO organizations differ in terms of both the number and diversity of topics they contain. However, these factors do not remain static over time, but instead vary as different external pressures emerge to influence a state's system of higher education. For example, a state's SHEEO may be focused on improving affordability for existing students at one point in time, but later shift toward recruitment of additional student populations in response to a decline in enrollments. Such shifts in the focus of an institution's agenda can have substantial impacts on the information being produced by the agency and provided to the state legislature.

Moreover, SHEEO agencies may be expected to react differently to these environmental changes. Organizations with broad agendas may already be attending to an emerging topic, making it simply a question of emphasis and prioritization. A less diverse agenda, however, may cause an organization to have a harder time responding to these events, as it would require a greater change from the existing status quo to change topics entirely. Thus, the stability or volatility of an institution's agenda is at least partially determined by its capacity to process a wide array of information and represents another element of bureaucratic agendas that can be strongly affected by organizational structures.

The remainder of this chapter addresses these questions based on the agendas of the Kansas Board of Regents (KBOR) and the Illinois Board of Higher Education (IBHE)

and their evolution across the years included in the dataset. In the first section, I discuss

the theoretical significance of examining the volatility of bureaucratic agendas and the

implications this has for understanding their influence on the policy process, followed by

the expectations formed by reviewing existing literature. I then present the

methodologies used to gain traction on the question of agenda volatility—distributions of

topic changes from year to year, along with tests of distributional normality and the

shapes of these distributions. In the second half of the chapter, I explore the findings and

their substantial implications. This section also includes a brief discussion of the changes

in agenda diversity we see over time using a similar approach as the previous chapter.

Finally, the chapter concludes with a brief review of findings regarding bureaucratic

agenda volatility and the impacts this factor has on their ability to influence legislative

policymaking.

Importance of Volatility

The degree of volatility present in bureaucratic agendas may at first seem

irrelevant to the larger questions being addressed in this project, as it does not directly

relate to the issues being discussed by bureaucracies or legislatures. However, while it

may not be determinative of the topics on an institution's agenda, volatility is an integral

part of the bureaucracy's ability to provide information and expertise into the policy

process. It both alters the context of decision making and either constrains or enhances

the amount of information which is available to make those decisions. Furthermore,

previous research has shown that institutional structures and agendas evolve over time as

political problems are redefined, suggesting agenda volatility is not uncommon (Baumgartner, Jones, and MacLeod 2000; King 1997). Thus, underestimating the importance of an agenda's volatility would be a substantial error.

Policy decisions are made based on the information available to decision makers at the time of the choice. This information can come from a variety of sources, including bureaucratic agencies such as SHEEOs. Due to the favored nature of bureaucratic information (Workman, Shafran, and Bark 2017), the agendas of these agencies are often a critical determinant of the information that is available to legislators at the time of a bill's introduction and passage. Volatility in these agendas, then, structures which information is readily accessible versus that which must be sought out. In this sense, the outcome of a policy debate can be substantially altered based on the timing of its emergence and the information available at that time.

Furthermore, awareness of agenda volatility has been shown to affect decision making in the context of higher education. Fryar and Carlson (2014) suggest the presence of volatility explicitly alters the decision making process for university presidents. In fact, the authors argue the decision of some presidents to raise tuition and fees charged to students can be traced to risk aversion based on the mere perception of volatility in state appropriations or other factors. Such a relationship implies organizational leaders are keenly aware of volatility in their surroundings and make decisions in accordance with this fact. Thus, agenda volatility is not only a real and important factor influencing the context of decision making by higher education agencies, but can also have trickle down effects from the governance body to the colleges and universities themselves.

With regard to the SHEEOs, a highly volatile agenda is indicative of attention fluctuating between topics. When a new topic emerges onto an institution's agenda, it necessarily means less attention is being paid to another item on the agenda, as attention is a zero-sum game (Zhu 1992). Conversely, if an organization has already been paying attention to a given topic, there is less need for this type of shift when it comes to the fore of the political agenda (May, Workman, and Jones 2008). In this sense, the degree of volatility present in an institution's agenda is dependent on the previously existing content and diversity discussed in the preceding chapter.

The presence or absence of attention shifts in bureaucratic agendas then impacts an agency's ability to provide consistent and reliable information to legislators in search of help to make a decision. An institution with a high degree of volatility cannot be expected to provide as constant a stream of information as could a less volatile agency. Instead, the focus of this type of organization is constantly reacting to external pressures, leaving little room for proactive attention to less salient issues. SHEEOs operating in this way are unlikely to have prepared information in advance of an issue emerging onto the political stage, which can have dramatic impacts on the policy debate at hand. When this occurs, policy makers must either find relevant information from another source (which is often accompanied by greater uncertainty of the information's accuracy or potential biases), make a decision based on preconceived notions of an issue rather than verifiable evidence, or put off a decision until the requisite information can be found. As such, a high degree of agenda volatility can not only make a bureaucratic agency less effective in influencing legislative positions on issues related to higher education, but can also alter

the trajectory of policy adoptions altogether. Thus, agenda volatility is the logical next step in determining the impact of bureaucratic information provision of subsequent legislation.

The factors that determine the volatility of an organization's agenda are in large part the same factors that affect its diversity. Specifically, I expect centralization to once again have a discernible impact on an agency's agenda. Centralized agencies, with their limited agenda content, are likely to have a high degree of volatility as a result. Because of their inability to parallel process a wide range of issues at once, these agencies are forced to make shifts in attention when new issues arise. Meanwhile, less centralized organizations can take advantage of the breath of their agenda to reduce the amount of volatility they experience. These agencies are capable of paying attention to both salient and non-salient issues simultaneously, thereby reducing the need for any major attentional shifts. Instead, decentralized institutions merely adjust the emphasis they place on various substantive topics which they are already monitoring. Accordingly, the agendas of less centralized agencies are expected to be less volatile over time than are those of more centralized organizations.

In terms of higher education agencies, the most centralized structures typically belong to governance boards. Because of this structure and the limitations it places on the institution's agenda, the Kansas Board of Regents should exhibit a high degree of volatility. The comparatively narrow agenda maintained by the agency means it will frequently struggle to keep up with evolving policy issues in higher education, as it plays a more reactive role to emerging issues. Coordinating boards like the Illinois Board of

Higher Education, meanwhile, are somewhat less centralized. Thus, we can expect the broad agenda of this organization to enable a more proactive approach to monitoring substantive issues. This ability will manifest as a less volatile agenda than exists for its Kansas counterpart.

The Evolution of Agenda Content

The theoretical expectations presented in the previous section are based on the assumption that the two SHEEO agendas do in fact change over time. Rather than accept this assumption at face value, however, this section briefly considers the extent to which this is the case in practice. To do so, I first look at the most common topic discussed in each state and whether this remains the same in every year of data. An agenda with lots of changes among the most frequent topic could be considered highly volatile. If attention is shifting toward various topics at different points, this trend should carry throughout all substantive topics on the agenda (not just the most frequently mentioned one). Conversely, an agenda dominated by the same topics for several years would indicate little volatility as attention remains primarily on the same few issues. Both agendas are expected to experience at least one change in the most common topic across the study period, as it is unlikely that an agency can be effective in achieving its goals if it focuses on a single issue for an extended period of time. However, the centralized structure and narrower agenda of the Kansas Board of Regents suggests it will experience a greater degree of volatility, meaning we should see a greater number of changes in the most common topics on the KBOR agenda than on the IBHE agenda.

In looking at the data, this is exactly the relationship that plays out. The most commonly discussed topic in Kansas changed four times over the six-year period in the study, while the primary focus in Illinois changed only once in five years. Moreover, three different topics were the most commonly discussed by the Kansas Board of Regents: Goals/Master Plans, Economic Outcomes and Impacts of Higher Education, and Adult Education/Non-Traditional Students. In Illinois, only two topics held this mantle— Budgets/Resources and Accountability. The number of mentions of many other topics also shifted dramatically from year to year, some of which more than tripled from one year to the next. Ten items on the KBOR agenda increased or decreased by at least ten mentions in a single year, while seven did so on the IBHE agenda[16].

The diversity of each institutional agenda also changed from year to year, as shown in Figure 5.1. This figure shows the entropy scores for the SHEEO agendas each year in both states. Surprisingly, the diversity score for the Illinois Board of Higher Education appears to be more volatile than does the score of the Kansas Board of Regents[17]. The entropy scores of the KBOR are relatively stable over time, hovering in the range between 2.17 and 2.55. The IBHE entropy scores, however, have a much broader range from 1.18 to 2.73[18]. Thus, by this metric, the Illinois governance structure seems to have a more volatile agenda.

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[16] For a full breakdown of annual mentions per topic, see Tables A.2 and A.3 in Appendix C.
[17] To some extent, this shift likely reflects a change in the length of annual reports published by the IBHE. Beginning with 2015, the reports contain less direct information in favor of including links to the agency's website.
[18] See Table A.4 in Appendix C for specific entropy scores for the two SHEEO agendas each year.
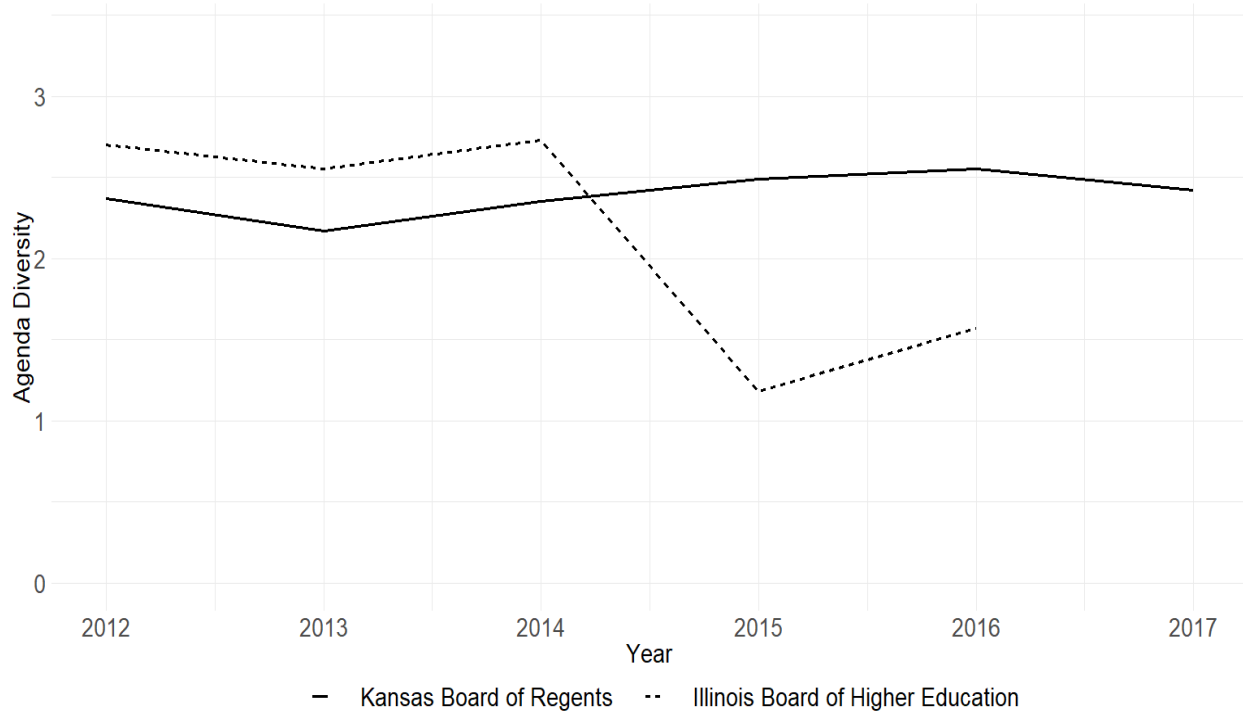
Figure 5.1: SHEEO Agenda Entropy Scores over Time

Though counterintuitive at first glance, this trend may simply reflect changes in emphasis between topics that were already on the agenda. Due to the way entropy scores are calculated, it is possible for two agendas with the same amount of focus on different topics to have the same score. Conversely, two agendas focusing on the same topics to different degrees would have very different scores. In this sense, entropy scores are somewhat comparable to the relationship between means and standard deviations of distributions. Just as two distributions can have the same mean but different data points resulting in different standard deviations, so too can different agendas have the same topics but different diversity scores. On the other hand, agendas with similar diversity scores but focusing on divergent topics are reminiscent of two distributions with the same standard deviation but centered around different means.

In this case, it makes logical sense that the Illinois SHEEO agenda would show more of this type of volatility. As shown through the descriptive assessment above, the Illinois Board of Higher Education agenda contains fewer instances of wholesale changes in substantive topics. Instead, the agency appears to make small adjustments to the topics it has already devoted some attention to, which would have a substantial effect on the diversity score from year to year. Meanwhile, the Kansas SHEEO's agenda exhibited several more changes in the most common topic as well as more instances of large variations in the number of mentions for each topic. This suggests the agenda may experience substantial shifts between topics but focuses on them in relatively equal amounts to other topics in the previous year. This variability would be reflected in the diversity score for the agenda overall by making it much less amenable to volatility. Thus, while Figure 5.1 appears to be somewhat contradictory to the previous findings, it in fact may be quite supportive of the broader argument that the centralized board will make larger shifts between topics while the decentralized agency will only shift its emphasis among substantive issues.

Estimating Agenda Volatility

Beyond simply looking at the content and diversity of the two SHEEO agendas over time, this chapter also analyzes statistically the changes that occur in the agendas of each agency. In order to do so, the data are pooled for each state by year in order to isolate each agenda and its evolution over time. I then calculate the number of mentions for each topic in the annual report published that year and subtract the number of

mentions it received in the previous year's report[19]. The resulting scores are positive for

topics which had a higher number of mentions in the report from a given year than in the

report from the previous year and negative for topics which decreased in the number of

mentions in the subsequent year's report. This process enables the creation of a

distribution of annual topic change for each agenda, which can be used to examine the

overall volatility of the agenda over time.

The first measure used in this regard is a series of Shapiro-Wilks tests, which

assess the normality of the distributions based on a W statistic (Breunig and Jones 2011).

Using this metric, a small and statistically significant value of W indicates a non-normal

distribution and a larger value of W suggests normality. Due to the theoretical

expectation of non-normal distributions, I also employ a measure of kurtosis to

determine the extent to which this is the case. I utilize the L-moments methodology of

Hosking (1990) to avoid complications arising from the unstable nature of standard

kurtosis measures for the small sample sizes found in most policy studies. L-kurtosis

scores are based on linear transformations of the data, making them less susceptible to

sampling variability or measurement errors. These scores are therefore better suited than

are traditional kurtosis measures for smaller sample sizes like those found in this study

and have been used effectively by a number of scholars in political science (Breunig and

Koski 2006, 2009; Breunig, Koski, and Mortensen 2010). In other ways, however, L-

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[19] These calculations are completed according to the following formula: $C_s = m_t - m_{t-1}$ where C_s is the topic change score for a given topic within state s and m is the number of mentions of that topic in year t and t-1, respectively.

kurtosis scores are similar to more conventional kurtosis measures as both estimate the underlying parameters of the distribution. Another benefit of utilizing L-kurtosis scores is the standardized nature of the measure (ranging from zero to one). This enables a direct comparison of the agendas of each SHEEO without concerns arising from the difference in samples or sample sizes.

For the sake of comparison, a standard normal distribution produces an L-kurtosis score of 0.123. This value is used as a sort of base measurement against which to assess the kurtosis of the distribution of topic change from each state's annual SHEEO report. Values below this mark indicate a platykurtic distribution, in which there are fewer cases in the peak or tails of the distribution and more cases in the shoulders. Anything above an L-kurtosis score of 0.123 is considered leptokurtic, with a high number of cases concentrated in the peak and tails of the distribution and fewer in the middle ranges. As has been found in many other analyses of institutional agendas (Baumgartner and Jones 2009; Breunig and Koski 2006; Breunig, Koski, and Mortensen 2010; Jones, Sulkin, and Larsen 2003; Mortensen 2009), I expect to find strong evidence of leptokurtosis for the agendas of each SHEEO organization.

Findings

Figure 5.2 below shows a histogram of topic change scores for each SHEEO agenda. The distribution in the left panel of the figure represents changes in the agenda of the Kansas Board of Regents, while the distribution on the right shows changes in the agenda of the Illinois Board of Higher Education. Both panels also have a normal distribution imposed on the data using a thin red line[20]. At first glance, two aspects of the distributions stand out: both are decidedly non-normal, and they appear to be remarkably similar to one another. The first of these observations was confirmed by Shapiro-Wilks tests, which returned a statistically significant W statistic for topic change in the distribution associated with both agendas[21].
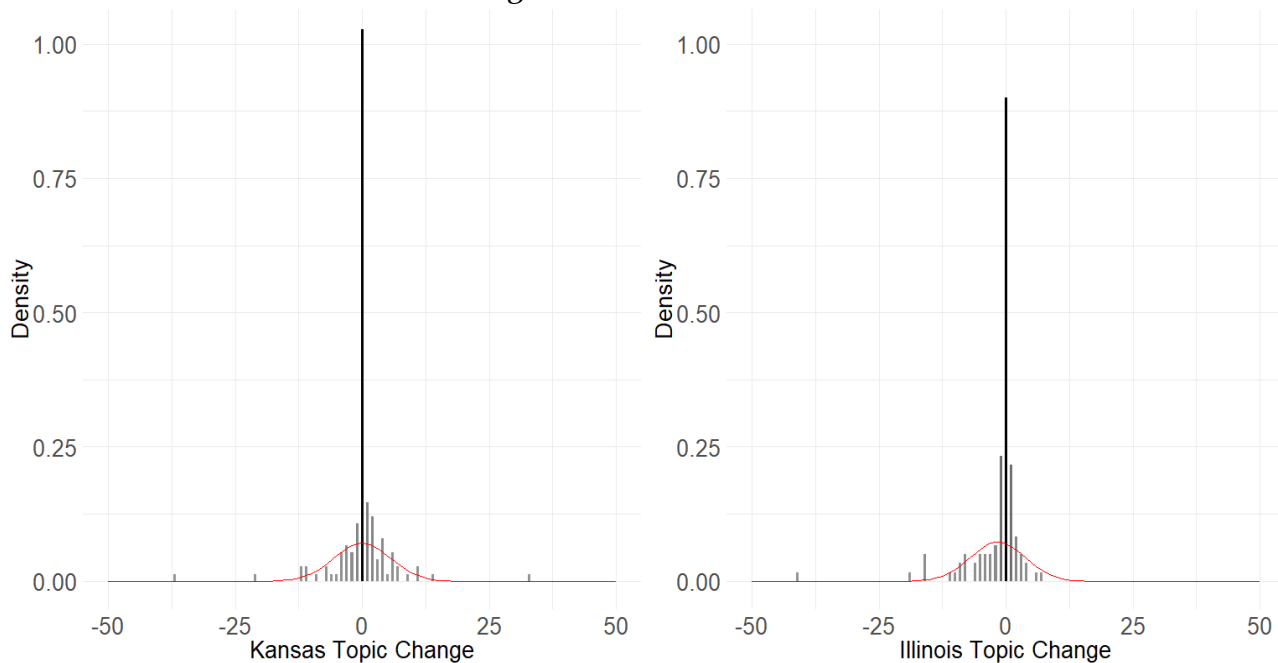
Figure 5.2: Topic Change Distributions of SHEEO Agendas. (a) Kansas Board of Regents (b) Illinois Board of Higher Education

[20] The normal distribution shown for each panel is calculated based on the same mean and standard deviation of the data to which it is compared.

[21] For the distribution of topic change in the annual reports of the Kansas Board of Regent, the W statistic was 0.717. The statistic for the topic change distribution of the Illinois Board of Higher Education annual reports was 0.749. Both statistics were significant at the 0.001 level, confirming the non-normality of the distributions.

The second immediate observation surrounding these distributions is less straightforward empirically. There are clearly major similarities between the two distributions, most notably their highly leptokurtic shape. This finding is in no way surprising, as both distributions were expected to display a high degree of leptokurtosis. Such a distribution attests to the fact that bureaucratic institutions are often characterized primarily by their stability rather than a tendency to evolve quickly. In fact, the mean topic change score for the Kansas Board of Regents agenda was -0.013, while the mean topic change for the Illinois Board of Higher Education agenda was -1.567. Both means are quite small and negative, indicating only a slight decrease in average attention to each topic as the dataset progressed. Yet both distributions also contain at least a handful of observations in their tails, suggesting this is not universally the case. Both agencies experienced several large shifts in attention toward some topics and away from others.

Despite these similarities, there are also several key differences between the distributions of topic change for the two agendas. The first is that the concentrated peak in the middle of the distribution has a higher density for the KBOR agenda than it does for the IBHE agenda. However, the two bars adjacent to the central peak are higher in the Illinois distribution than the Kansas distribution. This suggests that more topics are maintaining an identical number of mentions in the KBOR reports than in the IBHE reports, but there are a greater number of topics experiencing minor adjustments from year to year in Illinois. Such findings align with theoretical expectations and the trends in diversity scores discussed above. This relationship implies the Illinois coordinating board

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does a better job than the Kansas governing board of shifting the emphasis given to various topics on its agenda in order to keep up with the salient issues in higher education policy.

Meanwhile, the Kansas SHEEO appears to have a tendency toward large changes or none at all, as evidenced by the its higher peak in the center of the distribution coupled with a greater number of observations in the tails. These observations represent issues experiencing significant levels of change in the number of mentions from one year to the next. Interestingly, these changes include topics moving in both negative and positive directions, while the Illinois distribution only contains large shifts away from specific topics[22]. Again, this finding is consistent with expectations. Due to its centralized structure, the KBOR cannot maintain attention to a wide array of topics. Thus, to address issues it was not previously monitoring, the agency is forced to make greater shifts in both directions as attention is being pulled away from one issue to focus on another, newly salient, issue.

Overall, Figure 5.2 shows that the distribution of topic change scores for the Illinois Board of Higher Education agenda aligns somewhat more closely with the normal distribution overlaying the data than does the Kansas Board of Regents agenda. This observation is confirmed statistically in looking at the L-kurtosis scores of the two distributions, which are shown in Table 5.1 below. The L-kurtosis values for both

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[22] Again, these decreases are likely to result at least in part from the change in structure of the IBHE reports, which led to the inclusion of less information overall in the later years of the dataset. Thus, there was greater opportunity for large negative shifts in the number of mentions of a substantive topic than large positive shifts.

distributions are well above the value for a standard normal distribution, meaning they are both characterized by substantial leptokurtosis. This is certainly nothing new given the appearance of the two distributions shown in Figure 5.2. However, the use of L-kurtosis scores enables us to see the degree to which each agenda approaches normality (or, more accurately, doesn't approach normality) and the extent of the difference between the two topic change distributions.

Table 5.1: L-Kurtosis Scores, SHEEO Agendas

Distribution	L-Kurtosis Score
Kansas Board of Regents	0.193
Illinois Board of Higher Education	0.151
Standard Normal Distribution	0.123

The L-kurtosis scores indicate a substantial difference in the amount of leptokurtosis in each distribution of topic change scores. The Kansas Board of Regents agenda is much more leptokurtic than is the Illinois Board of Higher Education agenda. This once again falls in line with the theoretical expectations presented at the outset of this chapter, indicating that the KBOR agenda is more volatile than the IBHE agenda. Thus, changes in the agenda of this organization largely occur either as substantial punctuations or not at all. Conversely, the moderate shifts in the IBHE agenda suggest the agency is better able to proportionately process information and signals from its environment.

From these findings, it is clear that the centralized governing board in Kansas possesses a more volatile institutional agenda than the less hierarchical coordinating board in Illinois. This fact is not merely an interesting observation about the two

agendas, but has the potential for tangible effects on the agencies' operation. In Kansas, fewer items being on the agenda at once forces more major shifts between topics. As a result, the agency may not be able to provide relevant information to policy conversations about new or re-emerging issues, as they have not been continually monitored by the agency. Instead, there is likely to be a sort of lag between the issue being recognized as important for higher education in the state and the SHEEO shifting its agenda to be prepared to act on it. Operating in this way means the agency is constantly working to catch up to the conversation unless it relates to an issue that has been a concern for some time. This tendency can be quite costly given how quickly politics can move between topics, as the agency may be unable to contribute before the relevant decisions have been made by policymakers. Thus, the volatility of the Kansas Board of Regents agenda severely limits the impact the agency can have on a substantial portion of potential policy discussions in the state.

The coordinating board structure of the Illinois Board of Higher Education, however, serves to alleviate this condition. Paying attention to a broader array of issues allows the agency to make smaller shifts between old and new topics of discussion. These smaller shifts can largely be characterized as questions of emphasis rather than as volatility between agenda topics. Therefore, these shifts can take place much more quickly than the larger ones present in the KBOR agenda. Because the starting point of attention and expertise is closer to the end goal, the agency can more easily make the necessary adjustments to contribute to policy discussions surrounding increasingly salient issues. As such, the IBHE is unlikely to miss its opportunity to contribute to these

conversations and stands to play a larger role in the resulting decisions than does the KBOR.

Conclusions

The focus of this chapter has been the degree of volatility present in the institutional agendas of the Kansas Board of Regents and the Illinois Board of Higher Education. The attentional changes that are measured under the title of volatility account for the temporal aspect of these agendas. As with everything in politics, institutional agendas are subject to change at a moment's notice based on a variety of factors from the surrounding environment. These factors can bring additional elements of an issue to light, give an old issue a fresh wave of salience, or create new issues altogether. As such, the evolution of agendas over time is a crucial consideration for any study hoping to gain an understanding of political attention. Without it, any depiction of institutional agendas is incomplete at best.

In this study, agenda volatility was assessed in several ways. The first was an examination of changes in the most common topic on the two agendas each year. The most commonly discussed topic in the KBOR reports changed four times over the six-year period included in the dataset, allowing three different topics to be the most common at least once. The IBHE reports were somewhat less volatile, containing only one change in the most common topic. Two topics were the most commonly discussed, and both retained this title across several years of reports. Beyond the primary topics, other substantive areas also saw a great deal of change from year to year. In Illinois, there were

seven instances of a topic fluctuating by ten or more mentions in a single year. In Kansas, there were ten instances in which this occurred. Both of these observational metrics suggest the Kansas SHEEO agenda is characterized by a higher degree of volatility than is the Illinois SHEEO agenda.

This finding was seemingly contradicted by the next assessment of agenda volatility: changes in overall agenda diversity from year to year. This measure of volatility was originally expected to produce the same result as the others presented in this chapter by showing greater shifts in the agenda of the governing board rather than the coordinating board. In fact, the analysis showed the opposite to be true—the diversity scores of the Kansas Board of Regents were much more stable than those of the Illinois Board of Higher Education. While this initially seemed to counter the findings from the previous assessment as well as the theoretical expectation, this relationship was easily explained as a function of the entropy score calculation.

Specifically, an agenda which focused on the same substantive topics for two years but altered the level of attention received by each one would produce different diversity scores for the two years. On the other hand, an agenda which expressed the same proportion of attention in both years but to different topics would result in very similar entropy scores for the two years. This creates a somewhat counterintuitive situation where the agenda experiencing complete shifts between topics from one year to the next has a smaller change in diversity scores than an agenda which merely adjusts its emphasis among the same topics that held its attention before. This is the relationship that

appears to be occurring between the two SHEEO agendas in the present analysis, making the IBHE agenda seem more volatile than the KBOR agenda. In reality, it is more likely that these scores reflect small adjustments in emphasis on the IBHE agenda compared with wholesale changes between topics on the KBOR agenda, which is consistent with the other findings related to agenda volatility.

Finally, I assessed agenda volatility using topic change scores calculated for each substantive issue across each year of the dataset. The distributions shown in Figure 5.2 demonstrate both agendas are highly leptokurtic and dominated by a great deal of stability in discussion of substantive topics. The mean topic change score for the Illinois SHEEO was -1.567, compared to -0.013 in Kansas, suggesting most topics do not experience a great deal of change from year to year. However, both distributions also contained a number of observations far from these means, representing issues which underwent dramatic changes in the number of mentions from one year to the next. These instances were more frequent in the distribution depicting the agenda of the Kansas Board of Regents, implying greater volatility than the Illinois Board of Higher Education. This observation was further supported by the calculation of L-kurtosis scores for each distribution. While both agendas were proven to be substantially more leptokurtic than a normal distribution, the KBOR agenda exhibited this tendency to a higher degree than did the IBHE agenda.

Overall, the findings from this chapter can be considered highly supportive of the main hypothesis or somewhat mixed, depending on how one views the changes in

diversity scores from year to year. Based on the findings from the other measures, however, the more accurate interpretation seems to be the former. In general, the agenda of the Kansas Board of Regents is more volatile than the agenda of the Illinois Board of Higher Education. This indicates there are more large shifts in attention between topics on the agenda for the KBOR than for its counterpart in Illinois. As a result, the two agencies can be expected to operate in different ways and have different levels of impact on the policy process.

In Kansas, the SHEEO agenda is both narrower and more volatile than the SHEEO agenda in Illinois. As a result, the agency must frequently shift its attention between substantive issues because it cannot maintain attention to them all simultaneously. Though this may seem to be a relatively insignificant consequence of the board's structure, functioning in this way can have substantial impacts for the agency and the people working within it. For the bureaucrats working in the agency, this means they are constantly being asked to develop expertise on new issues related to higher education. Rather than maintaining focus on a single topic or groups of topics as they might in an agency with a broader capacity to process multiple streams of information, employees in this environment must shift along with the agenda of their organization. Such shifts minimize opportunities for individual bureaucrats to develop a deep knowledge regarding specific topics, which can become problematic when aggregated up to the institutional level by limiting the amount of expertise available within the agency.

For the leaders of an agency with a volatile agenda, this method of operation severely limits the opportunity for significant impacts on the policy process. Due to the

lack of available expertise and information emanating from within the agency, leaders often find themselves unprepared for policy discussions which emerged unexpectedly. Whether due to a focusing event or an unforeseen change in circumstances, issues that arise quickly have the potential to catch the agency by surprise. In these situations, the favored status of the bureaucratic agency is likely to be usurped by other organizations with an interest in the issue. This in turn affects the amount and quality of information available to policymakers and potentially the subsequent decisions they make regarding the issue. Thus, volatility in the topics on the agenda of the Kansas Board of Regents has the potential for far-reaching effects in the governance of higher education.

This situation is of much less of a concern in Illinois, where the SHEEO agenda experiences more stability over time. By maintaining consistent attention to a wider array of topics simultaneously, the agency preserves its institutional knowledge surrounding these issues. Agency staff are able to specialize and develop substantial expertise with regard to specific topics, which can be drawn upon by agency leaders for reports and other publications for external audiences. Operating in this way preserves the agency's function as a key provider of information for legislators and others making decisions related to higher education policies. Such information can be useful not only for impacting existing policy debates, but also for bringing attention to issues not previously on the broader political agenda. In this sense, a less volatile agenda enables the Illinois Board of Higher Education to play a larger role in the policy process at the state level than does the Kansas Board of Regents.

Policymakers outside the bureaucracy are also affected by the volatility of SHEEO agendas, as this factor can determine which information is available for upcoming decisions. Should the governance board be unprepared to suggest a course of action for a given policy problem, legislators will be forced to turn to other, potentially less trustworthy, sources. From this point, the impacts can either be negligible or dramatic, depending on the information obtained. In either case, legislators and other decision makers are likely to feel the effect of an agency which is unable to participate in policy discussions due to the volatility of its agenda.

This chapter has shown that a snapshot of institutional agendas is insufficient for grasping their impacts on public policy. Though these types of analyses can help to determine what factors are on a given institution's agenda at a certain point, they cannot account for the changes to the agenda over time. Not only can the changes themselves have an impact in terms of new policies being brought forth, but the mere presence of volatility can shift the decision calculus for actors in the policy process. Thus, to truly understand the genesis of public policy, scholars need to routinely include measures of the amount of instability present in the policymaking environment defined by institutional agendas.

This chapter builds on the findings of the previous chapter by demonstrating the degree of centralization present in a bureaucracy's structure effects the volatility of an agency's agenda in addition to its content and diversity. Together, these two features are expected to have tangible impacts on the agency's ability to influence other actors in the policy process. To this point, however, this assumption has largely been based on the

theoretical connections between an agency's agenda, its informational outputs, and its

role in policymaking. In the next chapter, I begin to assess this relationship empirically

by assessing the degree to which each SHEEO agency's agenda aligns with legislative

agendas of subsequent years.

Chapter Six: Agenda Alignment

An understanding of the issues on SHEEO agendas as presented in the previous two chapters is crucial for anyone wishing to gain insight into higher education policy made at the state level. Due to the bureaucracy's role as a provider of information into the policymaking process (Workman 2015; Workman, Shafran, and Bark 2017), the topics discussed by these agencies can be incredibly influential in guiding policy debates. The content, diversity, and volatility of topics on SHEEO agendas affect the information these organizations are able to make available to other actors in the policy process and can go a long way toward defining issues and shaping debates surrounding solutions to perceived problems.

Merely knowing the topics these agencies discuss, however, does not paint a full picture of their influence. We cannot truly understand the role of SHEEOs in crafting higher education policy without connecting SHEEO agendas to legislative discussions and the policies which ultimately get enacted into law. Making these connections between bureaucratic and legislative agendas enables an assessment of SHEEO influence on public policy in a way that examining the two types of agendas independently does not.

This chapter focuses specifically on establishing these linkages in order to determine whether and how various SHEEO organizations impact higher education policy at the state level. The first section contains a detailed discussion of the legislative agendas in Kansas and Illinois, which have yet to be introduced to the analysis. This section mirrors the findings presented in the prior two chapters in describing the content,

diversity, and volatility of the two legislative agendas. The next section moves toward a

discussion of the theoretical and practical significance of testing alignment between

SHEEO and legislative agendas. This is followed by an assessment of linkages between

the two types of agendas, made primarily through the use of correlation models. These

models determine the extent to which SHEEO agendas are linked to legislative agendas in

subsequent years, demonstrating the coordinating board in Illinois is much more aligned

with legislative agendas than is the governing board in Kansas. These findings are

supplemented and strengthened by a series of regression models containing several

control variables with the goal of isolating the impacts resulting from the SHEEO agenda

rather than other state political factors. Again, these models suggest the Illinois SHEEO's

agenda is much more influential than that of the Kansas SHEEO. Finally, the chapter

concludes with a discussion of the findings from these models and their implications for

higher education policy in the states.

Legislative Agendas

Agenda alignment between SHEEOs and legislatures is impossible to determine

without first assessing the content of agendas from both institutions. The two SHEEO

agendas have been explored in detail in the two previous chapters, but the legislative data

has yet to be brought into the analysis. In this section, I provide an overview of the

institutional agendas of the Kansas and Illinois state legislatures. These agendas are

determined by the pieces of legislation introduced for consideration each year in either

chamber. Legislation was collected for the same years as the SHEEO annual reports to enable a direct comparison of agenda content between the two agendas in each state.

For the sake of these comparisons, the most potent element of legislative agendas is their content. This is the aspect of legislative agendas in which SHEEOs are most interested as they try to inform current discussions and bring about new ones. As with the SHEEO agendas, there were several topics that were not discussed by legislators in either state. In this case, the unmentioned topics were graduate education, institutional honors and awards, and quality of education. These topics seem to have been either left for the SHEEOs and individual campuses to handle or deemed otherwise inappropriate for legislative attention. Instead, the legislatures of both states were primarily concerned with the budgets and resources allocated to higher education. In Kansas, this topic made up 62.16% of the agenda over the period from 2012 to 2017. In Illinois, budgets were the focus of 45.28% of the agenda related to higher education from 2012 to 2016.

In addition to the strong focus on budgets, both legislatures also paid a fair amount of attention to system-level matters. This substantive topic accounted for 5.52% of the legislative agenda in Kansas and 6.18% in Illinois. Other commonly discussed topics in Kansas included administration (6.54%) and facilities (5.08%). No other topics reached more than five percent of the agenda[23], and ten were not mentioned at all during the six years' worth of legislation included in the dataset. The Illinois legislative agenda also included two additional topics surpassing the five percent threshold—tuition and

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[23] The five percent threshold used here was arbitrarily chosen to distinguish those topics which received the most attention from those which were less common in each legislature.

affordability (14.86% and 10.91%, respectively). Only five substantive topics went

unmentioned in any proposed legislation over the five-year period included in the study.
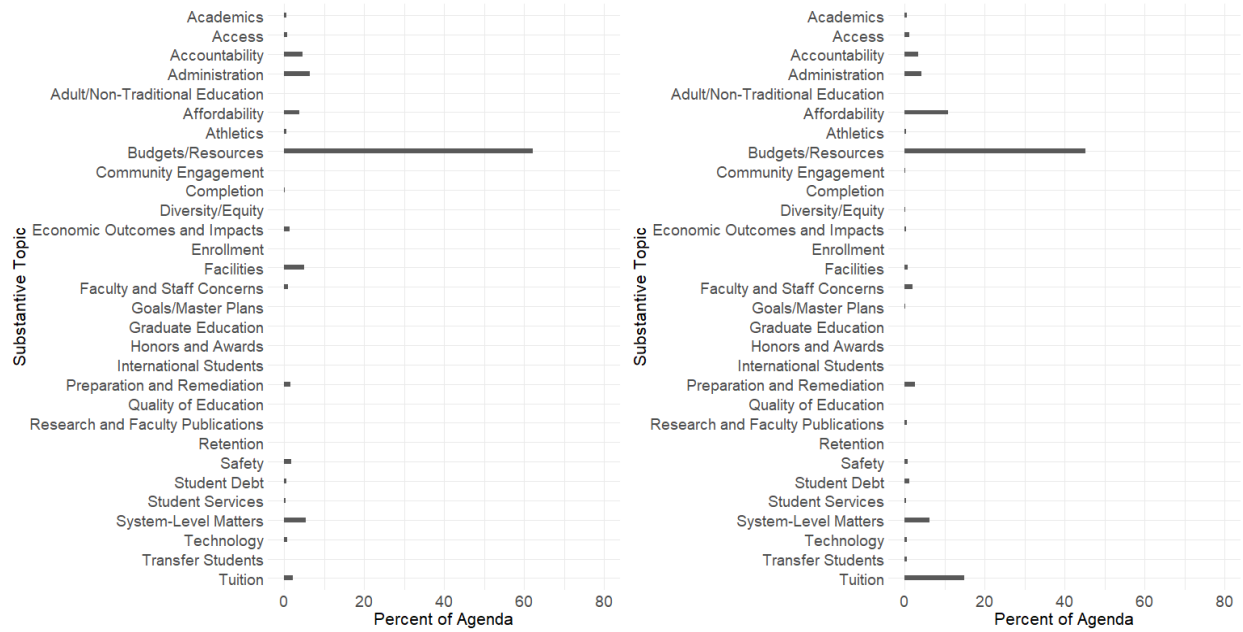
(a) Kansas State Legislature · · · · · · · · · · · · · (b) Illinois General Assembly

Figure 6.1: Content of Legislative Agendas.

Figure 6.1 above shows the full agenda of both state legislative agendas, revealing

several instances of similarity along with some areas of distinct difference between the

two states. The differences between the agendas appear to be stronger than their

similarities, as a chi square test shows the legislative agendas are statistically significantly

different from each other[24]. Turning to the diversity of these two institutional agendas,

both legislatures produced lower entropy scores did than their state's SHEEO. In fact, the

scores of both legislatures are lower than both SHEEO scores, indicating state legislatures

tend to have more concentrated agendas than SHEEOs. This fact is unsurprising,

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[24] The statistical test returned a p-value of 0.008, which held in a second test based on 10,000 simulated
replications of the data.

especially given the extensive amount of attention devoted to budgetary matters by both legislatures. In Kansas, the legislative entropy score is 1.77; in Illinois, the legislative entropy score is 2.09. Both of these scores are shown in Table 6.1 below, along with the SHEEO scores presented in Chapter Four for comparison. This table shows institutional agendas in Illinois tend to be more diverse than in Kansas in terms of both the SHEEO and the legislature.

Table 6.1: Diversity of Institutional Agendas

Organization	Entropy Score
Kansas State Legislature	1.77
Illinois General Assembly	2.09
Kansas Board of Regents	2.52
Illinois Board of Higher Education	2.65

Next, I assess the volatility of legislative agendas, which is useful for two reasons. The first is to determine the difficulty for SHEEOs to predict the topics discussed in an upcoming legislative session. If a legislature's agenda is highly volatile, a SHEEO may have a much harder time figuring out what will come up in proposed legislation. Conversely, if the legislature has a more stable agenda the SHEEO may be able to determine many of the common topics with relative certainty and therefore find it easier to prepare relevant information.

The second purpose for assessing the volatility of legislative agendas is simply for comparison to the volatility of SHEEO agendas. Doing so will help to determine whether the two agendas are moving at approximately equal rates or are following independent paths. Though agenda volatility cannot serve as a direct proxy for influence, the degree of similarity or difference between the rates of change in institutional attention can suggest

which institution has a more stable agenda. For a legislative agenda, such stability can constrain or enhance its amenability to influence from outside organizations, in this case by information provided by bureaucratic agencies.

(a) Kansas State Legislature   (b) Illinois General Assembly
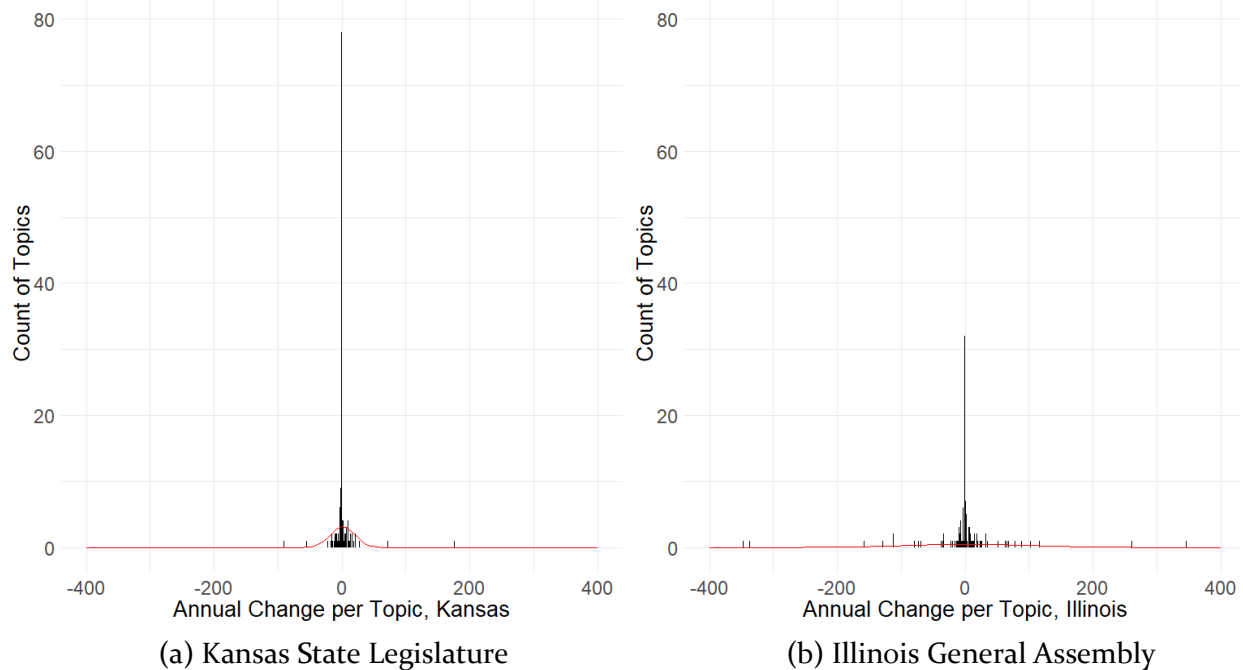
Figure 6.2: Topic Change Distributions of Legislative Agendas.

Figure 6.2 displays the volatility of each legislative agenda using a histogram of topic change scores. The left distribution represents the Kansas State Legislature, while the right panel shows topic changes in the Illinois General Assembly. Again, both distributions are overlain by a normal distribution using the parameters of the data to demonstrate the high degree of leptokurtosis which characterizes the distributions. Both are confirmed as non-normal through the use of Shapiro-Wilks tests, which returned W statistics of 0.331 (p=0.000) and 0.423 (p=0.000) for the Kansas and Illinois legislatures, respectively. Furthermore, both legislative agendas are characterized by exceptionally high L-kurtosis scores, as shown in Table 6.2 below. These results show legislative

agendas in these two states include a large number of topics remaining relatively static, while a few others undergo dramatic shifts from year to year. As such, they are even more leptokurtic than the two SHEEO agendas, demonstrating substantial volatility across the time period analyzed.

Table 6.2: L-Kurtosis Scores, Legislative Agendas

Distribution	L-Kurtosis Score
Kansas State Legislature	0.656
Illinois General Assembly	0.650
Standard Normal Distribution	0.123

Based on these brief analyses, it seems institutional agendas are less diverse among state legislatures than among SHEEO agencies. This results in large part from the overwhelming focus on budgetary issues in legislative bodies. Such a trend should come as no surprise, given that primary budgeting authority is granted to state legislatures. Due to the constitutional mandate for legislatures to pass a budget each year (or biennium in some cases), one can easily expect them to pay an inordinate amount of attention to this issue over others. The remaining attention is much less predictable, as both agendas displayed a high degree of volatility in terms of changes in focus on substantive topics over time. For SHEEOs and other organizations hoping to influence legislative policy making, this could mean one of two very different things: either the legislative agenda is too unpredictable to impact in significant ways, or the legislature is responsive to the suggestions of outside groups in directing its attention to substantive issues in higher education. The remainder of this chapter seeks to determine which of these trends is occurring by assessing the degree to which SHEEO agendas line up with or lead the agendas of their state legislatures.

Significance of Alignment between Agendas

The alignment of SHEEO and legislative agendas is the key element of assessing bureaucratic influence in higher education policy. No matter what topics are on the institutional agenda of a SHEEO agency, the organization has no impact on legislation until the same topics are seen on the agenda of the state legislature. This is the case regardless of how diverse the content of the agency agenda is or how stable the topic discussions are. Thus, the analyses of the earlier chapters and the previous section, while important, are incomplete without this final portion. It is the alignment between the two agendas which ultimately demonstrates that bureaucratic information is being used by lawmakers in state legislatures instead of simply languishing on their desks.

To many would-be policy entrepreneurs, it may seem highly unlikely that legislators would take the time to not only read the reports provided to them, but also to utilize the information they contain. However, there is reason to believe this is the case, at least for reports emanating from bureaucratic sources. This is primarily due to the privileged status enjoyed by many government agencies as preferred providers of policy-relevant information (Workman 2015; Workman, Shafran, and Bark 2017). While interest groups, think tanks, and other organizations often rise and fall over the course of a few years, bureaucracies are engaged in the policy area for the long-term. This enables a relationship to be built between legislators and bureaucrats through repeated interactions, which in turn allows each to get to know the preferences and biases of the other. As a result, legislators know how to interpret information provided by relevant

agencies, even if it includes some inaccuracies or biased perspectives. Such experiential

knowledge is not available when reading information supplied by other types of

organizations, meaning legislators face uncertainty about the degree to which it can be

trusted. Accordingly, bureaucratic information often has greater value to legislators

looking to define the boundaries of policy discussions (Workman 2015; Workman,

Shafran, and Bark 2017).

Simply knowing legislators deem this information worthwhile does not guarantee

it will have any influence on subsequent policy decisions, as much as that may be the

hope of the organization providing it. Indeed, one would certainly not expect

bureaucratic information to have a special influence in every situation, as there are a

variety of other factors—including information emanating from other sources—which

come together to produce the legislative agenda. Realistically, only a small portion of the

plethora of information pouring into state legislatures will have an impact on the policy

process, with the remainder being deemed irrelevant through the winnowing process

(Jones and Baumgartner 2005b). This proportion is likely to be only marginally larger for

bureaucratic information than for information from other organizations, meaning the

vast majority of it will go unused by state legislatures.

This leads to the culminating research question of this project: Given the volume

of information SHEEO agencies provide to state legislatures, are these efforts effective in

shifting the opinions and actions of legislators toward the policies advocated by the

bureaucracy? This process can best be viewed through the comparison of SHEEO and

legislative agendas. If the two institutional agendas in a state contain the same

information, it suggests the legislature responds to the information presented in SHEEO reports. On the other hand, if the legislative agenda does not discuss any of the same topics, it is likely utilizing information from other sources rather than the SHEEO. Accordingly, answering this research question requires a comparison of the information present on the SHEEO agendas with the information embedded in eventual policy adoptions in search of evidence that bureaucratic information provision is impacting the creation of higher education policy.

In doing so, I expect to find some impact from the SHEEO institutions in both states due to the status of bureaucratic agencies as favored providers of information for legislators. The combination of this privilege with the unique perspective a SHEEO can bring to the table suggests these organizations will play a leading role in guiding conversations related to higher education policy. As a result, I expect to see legislators utilizing information that has been provided in SHEEO reports by including it in the bills they introduce and eventually adopt. Specifically, this relationship suggests the topics on a SHEEO's agenda in a given year will appear on the corresponding legislative agenda in subsequent years, reflecting the legislature's increasing awareness of issues brought up by the bureaucracy and intent to act on them.

However, the two types of SHEEO agencies are unlikely to affect their legislatures to the same extent. Due to its centralized structure, the agenda of the Kansas Board of Regents is both narrower and more volatile than that of the Illinois Board of Higher Education. This reflects the agency's limited ability to divide attention among a wide variety of topics. The IBHE, meanwhile, is able to capitalize on its decentralized structure

by assigning small groups of specialized staff to attend specific issues at all times, an operation known as parallel processing (Jones 2001; Simon 1983). In doing so, the agency is likely to be better prepared to inform the legislature not only when new issues arise, but also when less salient issues are becoming problematic. Having constantly monitored a topic, the agency is able to notice when something needs to be addressed. This information can then be readily passed on to the state legislature to motivate future policies. Consequently, I expect the coordinating board in Illinois to be more effective at shaping the legislative agenda than is the governing board in Kansas.

Content Comparisons

The first step in establishing linkages between SHEEO and legislative agendas is ensuring both institutions are discussing the same or similar issues over the period included in the study. To do this, I start with a simple comparison of the overall agendas of the SHEEO and legislature in each state, presented in Figures 6.3 and 6.4. These visual comparisons reveal the general trends in the data, allowing us to see which topics are most commonly discussed in each institution. In the latter part of the section, I perform correlation models to assess the linkages between state institutions in a more statistically grounded sense.

The institutional agendas from the Kansas Board of Regents and the Kansas State Legislature are displayed together in Figure 6.3 below. The most striking aspect of this figure is that the vast majority of topics are important to one institution or the other, but rarely both. This trend is especially apparent in the first two topics listed,
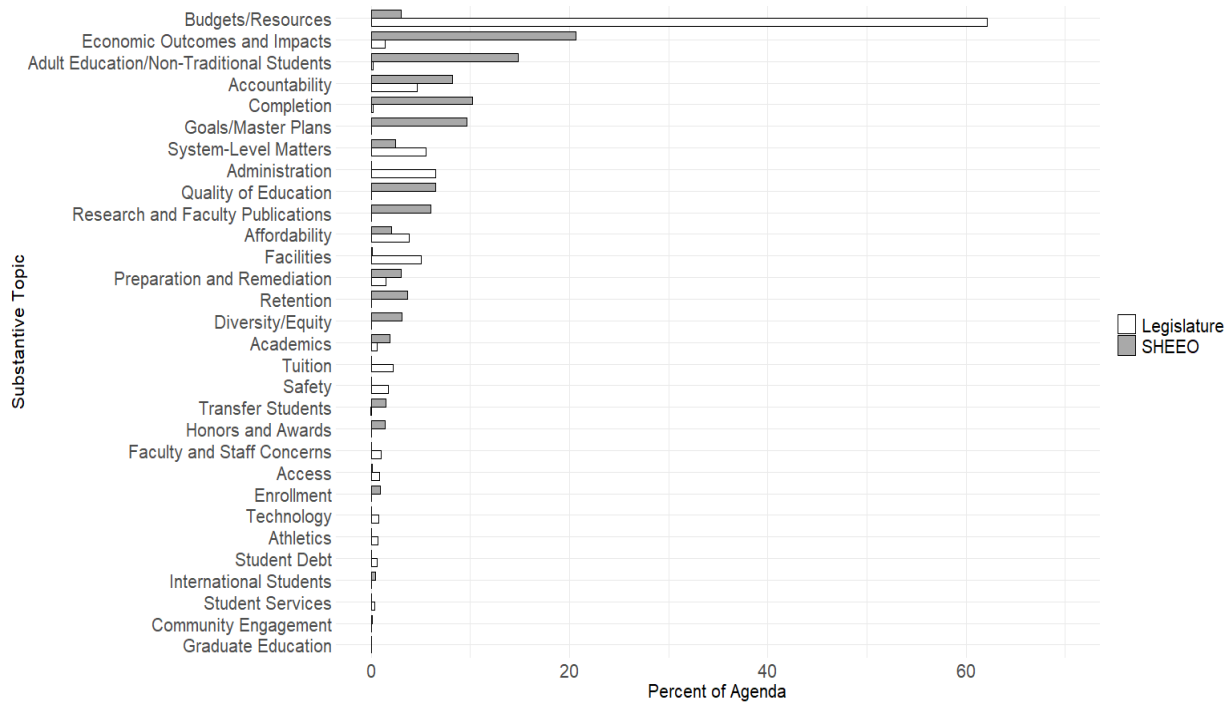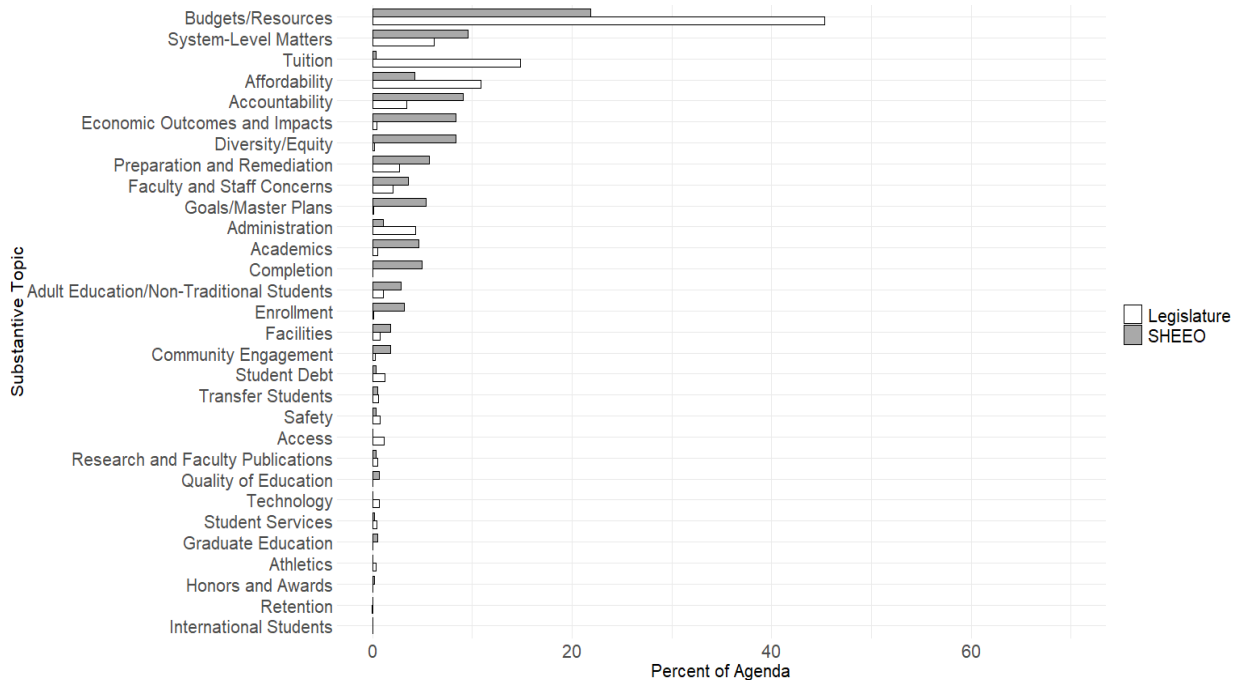
Figure 6.3: Kansas Institutional Agendas.

Budgets/Resources and Economic Outcomes and Impacts. These are the most commonly discussed topic for the legislature and SHEEO, respectively, yet command very little attention from the other organization. The lone exception is Accountability, which appears to be of moderate importance to both the SHEEO and the state legislature. Accountability aside, the lack of overlap between the most significant topics on the two agendas and the disparity in attention more generally demonstrate that the Kansas Board of Regents does not align well with the topics being discussed in its state legislature. At this most basic level, then, it appears the Kansas SHEEO is relatively ineffective at influencing the legislative agenda.

In Illinois, this is much less the case. As seen in Figure 6.4, the common topics on the agenda of the Illinois Board of Higher Education have substantial overlap with the most common topics on the agenda of the Illinois General Assembly. Budgets/Resources

Figure 6.4: Illinois Institutional Agendas.

and System-Level Matters are among the most discussed topics on both agendas, and there are few topics displaying discrepancies similar to those seen between the two institutional agendas in Kansas[25]. Generally speaking, the frequency of topics on both agendas trend in the same direction as we move down the graph. Based on these observations, there seems to be a much higher degree of alignment between the two agendas in Illinois than in Kansas. Thus, it seems plausible that the Illinois Board of Higher Education is having some impact on the agenda of the state legislature.

To confirm these observations, I utilize a series of simple correlation models. Each correlation reflects how well the topics on a SHEEO's agenda in a given year align with the topics on the state legislature's agenda in the following year. This one-year lag of the legislative agenda is included for two reasons. First, such a lag allows time for

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[25] The obvious exception here is Tuition, which was the second most commonly discussed topic in the state legislature but received almost no attention from the SHEEO.

bureaucratic information to be received and processed by legislative institutions.

Secondly, research has shown that signals must be repeated before they are acted upon

(Carpenter 1996). Including a one-year lag of the legislative agenda accounts for this

process in the connections between agendas by allowing time for additional signals to be

received.

Table 6.3 Correlations between SHEEO and Legislative Agendas

Year[†]	Kansas	Illinois
2012	-0.145	0.330
2013	0.118	0.804*
2014	0.025	0.624*
2015	0.085	0.069
2016	-0.091	--

[†] Year listed corresponds to SHEEO agendas. Legislative agendas have been lagged one year.
* Correlation coefficient is significant at the 0.01 level.

The results (presented in Table 6.3 above) show essentially no correlation between

the agendas of the Kansas Board of Regents and the Kansas State Legislature at any time.

The Illinois data, meanwhile, shows a strong correlation between the SHEEO and

legislative agendas for two of the four years available[26]. Not only are these correlations

substantively strong, but they are also highly statistically significant. Thus, we can see

many of the topics present on the IBHE agenda in 2013 and 2014 appeared on the agenda

of the state legislature in 2014 and 2015.

The complete lack of correlation between the agendas of the two Kansas

institutions is somewhat surprising, as it suggests the Kansas Board of Regents has little

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[26] Note the SHEEO agenda in the final year of data collection is not included in the table for either state in order to allow for a one-year lag in the legislative data.

to no effect on the state legislature's agenda. Instead, the two institutions seem to talk past each other on most issues, with few overlapping discussions. As a result, the KBOR may be unprepared for many conversations taking place in the legislature, as employees of the organization have not paid close attention to the issues on the agenda. This means the agency is unlikely to be able to provide timely information or relevant expertise and could be left out of the policy discussions altogether.

In Illinois, however, the strong correlations between the two agendas suggest the IBHE is a leader of higher education policy in the state. This relationship becomes even clearer when looking at correlations between the SHEEO and legislative agendas with a two-year lag, as shown in Table 6.4. Such strong correlations demonstrate that the topics which are of interest to the SHEEO often become the subject of legislative discussion in subsequent years. Furthermore, those signals which are not processed and acted upon immediately are frequently brought up in the second year following the original signal from a SHEEO report. This trend is supportive of expectations based on the work of previous scholars focused on signaling and information processing (Carpenter 1996; Jones and Baumgartner 2005b). In practice, these correlations mean the IBHE not only has a seat at the table for policy discussions related to higher education, but also has the ability to bring legislative attention to topics that may not otherwise be considered in these conversations.

The relationships between the SHEEO and legislative agendas in the two states are not altogether unexpected. While the role of the Kansas SHEEO appears to be more limited than would have been anticipated at the outset, the fact that the correlation

Table 6.4: Correlations between SHEEO and Legislative Agendas (Two-Year Lag in Legislative Agendas)

Year[†]	Kansas	Illinois
2012	-0.109	0.655*
2013	-0.010	0.647*
2014	0.065	0.801*
2015	-0.001	--

[†] Year listed corresponds to SHEEO agendas. Legislative agendas have been lagged two years.

* Correlation coefficient is significant at the 0.01 level.

between institutional agendas is stronger in Illinois is not. This relationship matches exactly what the chapter's central hypothesis predicted. The decentralized structure of the coordinating board enables greater flexibility in shifting attention between topics, which in turn allows the organization to both bring legislative attention to emerging topics and keep up with issues that have arisen through other means. Accordingly, the IBHE appears better able to fulfill its role as a primary provider of information to legislators, which helps to maintain the agency's seat at the table for discussions of policy choices related to higher education. In doing so, the IBHE remains an active driver of the choices made by the Illinois General Assembly to a much larger extent than does the KBOR in Kansas.

Establishing Causal Links between Agendas

The correlation models presented in the previous section are enlightening and provide some support for the influence of SHEEOs on the policy process. However, none of the models presented up to this point can support a causal argument. That is the goal of the remaining sections of this chapter, which will make use of regression models to test the impact of SHEEO agencies on state legislative agendas related to higher education.

An added benefit of this type of modeling is the opportunity it affords for the inclusion of control variables in the analysis, which will help to ensure the observed effects are due to the differences in the types of governance structures used in the two states rather than other idiosyncratic factors.

The first of these controls is the level of funding for higher education in the state for a given year. This amount changes annually in both states, with some years seeing increased appropriations and others facing substantial declines. It stands to reason that these changes would alter the relationship between the SHEEO and the state legislature. Specifically, one might expect the SHEEO to focus solely on financial stresses during years with low budgets, meaning the agency is less capable of exerting influence on other subjects. In years with higher funding levels, the SHEEO may be able to move into more of an advocacy role as it works to proactively address emerging issues in higher education. Thus, each state's appropriations for higher education each year is controlled for in the models to follow. The data for this variable is drawn from the State Higher Education Finance (SHEF) report published annually by the State Higher Education Executive Officers Association. This report includes a variety of financial information regarding higher education in each state which has been collected from the SHEEO agencies themselves. Of interest for this measure is the level of educational appropriations per full-time equivalent (FTE) enrolled, which is reported in constant dollars for each year included in this study[27].

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[27] Annual values for all control variables included in the regression models of this chapter are provided in Tables A.5 through A.8 in Appendix C.

A related variable pulled from the SHEF report is the number of students enrolled in a state's public institutions of higher education, known as the net public FTE enrollment. Unlike the higher education funding variable, this factor decreased in every year of the dataset across both states. This downward trend in the number of students educated in each state also affected the work of the SHEEO, as there were fewer students in its purview. As a result, the SHEEO agency in each state may have been viewed differently over time by legislators, restricting its ability to influence policy discussions. Because of this tendency, total enrollment in higher education institutions has been controlled for in the upcoming models.

The final student-based control variable included in the analysis is the number of students enrolled in twelfth grade in the state each year. This number can be seen as a proxy measure of the potential size of an incoming cohort of students for higher education, as more students graduating high school often translates into greater demand for postsecondary education. Growth in the number of graduating high school students therefore may translate into greater influence for the SHEEO, which can utilize an anticipated growth in enrollment to add weight to its policy positions. The measure used in this study includes not only students enrolled in public schools, but also those in private schools and who are home-schooled to account for the full population of high school seniors in the state who may be college-bound the next year. This variable was obtained from the Common Core of Data published by the U.S. Department of Education's National Center for Education Statistics, and is available for all years in the dataset for both states.

The regression models presented in the next section also include measures to control for the political environment of the state. The first is a simple indicator of whether a new governor assumed office in a given year. This occurred only once in the years included in this study—2015 in Illinois, when the state moved from a Democratic to a Republican governor. The final two measures included in the models reflect the median ideology within each state's legislature. The measure was devised by Shor and McCarty (2011) and represents the median ideology score within both chambers of a state's legislature. The scores are placed on an interval scale ranging from -1 (Liberal) to +1 (Conservative). Unfortunately, the scores are missing for the Kansas House of Representatives in 2012 and are unavailable beyond 2016 for any state. However, the data are available for the majority of the models presented below, as the legislative lag prevents the use of SHEEO data from 2017.

Together, these variables account for the general standing of higher education in each state as well as changes in their political environments over the course of the dataset. Controlling for these factors thus enables an examination of the influence of the SHEEO in isolation from other potential confounders. Finding the SHEEO agenda to be a significant predictor of subsequent legislative agendas after accounting for these factors would corroborate the relationships suggested by the correlation models shown earlier. Such a finding would suggest SHEEOs do have a causal influence on legislative policy discussions, which can then be taken a step further to assess which state's SHEEO appears to be more effective in this regard. Thus, the remainder of this chapter seeks to establish an answer to the primary research question presented in the introductory

chapter: which type of SHEEO structure is best able to influence the agenda of its state legislature?

SHEEO Influence on Legislative Agendas

The first step in answering this question is determining whether SHEEOs in fact have a discernable impact on the legislative agenda in their respective states. Based on the results of the correlation models presented earlier, I expect to see a stronger impact by the Illinois Board of Higher Education than by the Kansas Board of Regents. The initial results presented in Table 6.5 support this hypothesis. All three models include the number of mentions per topic on the SHEEO agenda each year as the independent variable and a similar count of the annual legislative agenda as the dependent variable, including a one-year lag for the legislative agenda. Model 1 includes all of the data from both states, Model 2 focuses on the effect of the Kansas Board of Regents on the Kansas State Legislature, and Model 3 assesses the impact of the Illinois Board of Higher Education on the Illinois General Assembly.

Table 6.5: Regression Results, SHEEO Impacts on Legislative Agendas

	Model 1: Full Dataset (SE)	*Model 2:* Kansas (SE)	*Model 3:* Illinois (SE)
Intercept	14.086* (6.62)	8.381** (2.75)	20.635 (13.82)
SHEEO Agenda	2.353*** (0.72)	-0.110 (0.30)	5.584*** (1.53)
Adjusted R^2	0.034	-0.006	0.094

*** = $p < 0.001$, ** = $p < 0.01$, * = $p < 0.05$

Model 1 shows SHEEOs generally speaking do have a statistically significant impact on legislative agendas, explaining approximately four percent of the variation on

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average. Even more telling is the striking difference between Models 2 and 3 in this table.

The relationship between the Kansas SHEEO and its legislature is not only insignificant,

but is largely nonexistent. This finding is not entirely unexpected, as it corresponds with

the lack of correlation seen in Tables 6.3 and 6.4 above. In Illinois, however, the opposite

appears to be true as the SHEEO has a strong impact on the agenda of the state

legislature in the following year. This impact is significant in both the statistical and the

substantive sense, as the IBHE agenda explains nearly ten percent of the variation in the

next year's legislative agenda[28].

These findings are quite interesting, but leave open the possibility of other factors

interfering with the relationships presented. To account for this, the next series of

models controls for several variables related to the status of higher education in the

state—higher education funding, statewide enrollment in public higher education

institutions, and total number of twelfth grade students in the state. Despite the

inclusion of these factors, the results of the model do not change. None of the potentially

confounding variables are significant in any of the three models, with coefficients

approaching zero. Meanwhile, the SHEEO agenda continues to be significant for the

overall dataset and in Illinois, with similar coefficients. The largest change seen in the

models below is the adjusted R^2 of Model 1, suggesting the higher education factors do

matter to some extent in the aggregate. However, these factors do not substantially alter

the model for either state individually, leaving their influence somewhat unclear in

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[28] These models were also run with fixed effects for each year in the dataset, producing nearly identical results.

practice. Altogether, the impact of the SHEEO organization on the legislative agenda in each state appears to be unchanged by the standing of higher education in the state in a given year.

Table 6.6: Regression Results, SHEEO Impacts on Legislative Agendas, Controlling for Higher Education Factors

	Model 1: Full Dataset (SE)	Model 2: Kansas (SE)	Model 3: Illinois (SE)
Intercept	125.21 (502.25)	-78.55 (841.16)	584.39 (2258.45)
SHEEO Agenda	2.54*** (0.72)	-0.12 (0.30)	6.38*** (1.61)
Higher Education Funding (per FTE)†	-0.88 (0.66)	-10.49 (26.21)	-2.77 (2.23)
Statewide Higher Education Enrollment†	-1.30 (3.01)	-0.11 (2.13)	-25.63 (34.45)
High School Seniors†	1.72 (3.04)	4.99 (13.61)	5.40 (12.67)
Adjusted R²	0.0705	-0.0175	0.0942

*** = p < 0.001

† Variable recorded in thousands

Other factors which could have an impact on the influence of the SHEEO on the legislature are the characteristics of the legislature itself. Specifically, a legislature with a strongly liberal or conservative ideology may be more or less likely to value information produced by the agency. Such legislatures could either heavily favor bureaucratic information or prefer to focus on the stances of external organizations such as interest groups related to higher education. The next series of regression models account for these tendencies by controlling for the median ideology of members in the upper and lower chambers of each state legislature. Models 1 and 3 also include an indicator for a new governor in a state, as occurred in Illinois in 2015.

As seen in Table 6.7 below, these factors had little impact on the influence of SHEEO agencies on subsequent legislative agendas. Furthermore, the adjusted R^2 for each model improves only slightly over the uncontrolled results presented in Table 6.5. Taken in combination, these elements demonstrate the included political factors have little to no impact on the ability of the SHEEO to influence legislative agendas. This is especially the case in Illinois, where the IBHE continues to have a substantial impact on subsequent discussions in the state legislature.

Table 6.7: Regression Results, SHEEO Impacts on Legislative Agendas, Controlling for Political Factors

	Model 1: Full Dataset (SE)	*Model 2:* Kansas (SE)	*Model 3:* Illinois (SE)
Intercept	25.61 (27.80)	9.60 (948.32)	-59.795 (513.31)
SHEEO Agenda	3.20*** (0.84)	0.01 (0.37)	6.381*** (1.61)
House, Median Ideology	-130.32 (288.43)	-46.56 (321.20)	-670.813 (1090.87)
Senate, Median Ideology	63.97 (196.64)	35.18 (966.04)	159.568 (1289.33)
New Governor	25.11 (22.69)	N/A	23.907 (47.53)
Adjusted R^2	0.078	-0.024	0.094

*** = p < 0.001

The results from all three sets of regression models paint a similar picture: the Illinois Board of Higher Education has a substantial voice in higher education policy discussions in its state legislature, while the Kansas Board of Regents does not. This is clear from the patterns of statistical significance, which repeatedly show an impact in

Illinois and no relationship in Kansas[29]. The adjusted R^2 statistics from the various

models confirm this result, as each iteration of Model 3 explains approximately 9.5

percent of the variance in the state's legislative agenda. The adjusted R^2 of Model 2,

meanwhile, is slightly negative in each case, indicating the SHEEO agenda cannot

account for any of the variation in the agenda of the state legislature. Furthermore, the

coefficients themselves are directly comparable across the models due to the consistency

in measurement of the variables. Because all of the agendas are measured in terms of

topic mentions per year, the larger coefficient for the SHEEO agenda in Model 3

corresponds to a much larger impact by the agency than the very small coefficient of the

SHEEO agenda in Model 2. This element is also consistent across all three series of

models, demonstrating the impact of the SHEEO is very stable and somewhat insulated

from the effect of other characteristics of the surrounding environment.

In practice, these results further support the speculations of the previous chapters.

The Illinois Board of Higher Education appears to be able to capitalize on its structure in

order to produce a wide array of useful information relevant to higher education policy.

In maintaining this attention to a greater number of topics, the agency can be proactive

in addressing emerging issues that may otherwise have been overlooked. As such, the

IBHE can alert the General Assembly and spur discussion of these topics earlier than

would have occurred without dedicated attention. In this way, the coordinating board

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[29] All of the regression models were also performed using a two-year lag of the legislative agendas and produced similar results. Though these models explained a larger portion of the variance in legislative agendas according to their Adjusted R^2 values, they were not included in the text due to some of the control variables lacking variation and being collinear with each other for the subset of years included. For the full results of these models, see tables A.9 through A.11 in Appendix C.

becomes a driver of the legislative agenda as seen through the regression results presented above.

This type of relationship does not seem to exist in Kansas, where the Board of Regents has little to no influence on the agenda of the State Legislature. The lack of a significant impact by the governing board in any of the regression models (or the correlation models presented earlier) shows the agendas of the SHEEO and legislature evolve entirely independent of each other. Unlike the IBHE, the Kansas Board of Regents is limited by its structure and the resulting institutional friction in that it can only maintain attention on a small number of topics at a given time. As a result, the agency is constrained in its ability to provide notice to the legislature of emerging issues and generate relevant information once the issue has arisen. Accordingly, it is much more difficult for the board to influence the legislative agenda, which it does not appear to do on a consistent basis. Thus, the expectations for the two board structures presented at the outset are substantiated through each of the regression models, with the coordinating board having a much stronger influence on legislative agendas than the governing board.

Conclusions

The analyses presented in this chapter form the crux of the overarching argument in this project, namely that SHEEO organizations can and do influence legislative agendas related to higher education policy. Looking at SHEEO agendas in isolation is useful for gauging the attention of the bureaucracy, but cannot tell us anything further about their influence in the policy process. For this purpose, an assessment of legislative agendas was

necessary, which formed the first part of this chapter. A brief analysis of the legislative

agendas in the two states revealed both to be decidedly concentrated on budgetary

matters and highly volatile as a result. In comparison to the SHEEO agendas examined in

the previous chapters, the legislative agendas from both states were much less diverse and

experienced a greater degree of volatility.

In terms of the alignment between topics on the two institutional agendas from

each state, mere observation made clear there was a very different relationship in the two

states. Figure 6.3 demonstrated little overlap between the agendas of the Kansas Board of

Regents and the Kansas State Legislature, as the majority of topics were important to

either one or the other rather than both institutions. In Figure 6.4, however, the agendas

of the two Illinois institutions were much more closely aligned, sharing several of their

most frequently discussed topics. These observations were confirmed through the use of

correlation models, which enabled an assessment of the linkages in each year of the

dataset rather than an aggregate view. The links were largely nonexistent in Kansas,

where the correlation coefficients never reached as high as 0.2 and were in fact negative

for several years. The opposite was true for the data drawn from Illinois, where the

correlation coefficients were regularly above 0.6 and statistically significant. Correlation

models using a two-year lag of the legislative agenda were even stronger, as all three

comparisons were above 0.6 and statistically significant at the 0.01 level.

These results clearly hinted that the coordinating board in Illinois was much more

effective in guiding the legislative agenda than was the governing board in Kansas,

though they could not provide a causal connection. This limitation was addressed in the

following section of the chapter, which introduced regression models to directly test the power of the SHEEO agenda to predict the legislative agenda in the following year. The series of models presented in Table 6.5 largely corroborated the results of the correlation models, showing that the SHEEO has a causal influence on the legislature in Illinois, but not in Kansas. The coefficient for the effect of the SHEEO agenda is both large and statistically significant, meaning the IBHE has a strong influence in determining topics for the legislature to discuss in an upcoming session.

However, missing from these preliminary models were any potentially confounding variables that could interfere with or enhance the impact of the SHEEO. Thus, additional models were included to account for factors related to the status of higher education in the state as well as characteristics of the political environment. The first of these models included three higher education variables: higher education funding; statewide enrollment in public higher education institutions; and total number of students in twelfth grade in the state. The second series of models included three variables related to the state's political environment: median ideology of the state legislature's lower chamber; median ideology of the state legislature's upper chamber; and an indicator of whether a new governor assumed office in a given year. Shown in Tables 6.6 and 6.7, none of these variables made much difference in the results. The Illinois Board of Higher Education continued to show a strong influence in higher education policy, accounting for approximately nine percent of the variation in the legislative agenda across all the regression models. The Kansas Board of Regents, meanwhile, still showed no impact whatsoever in either statistical or substantive terms.

Altogether, these results clearly demonstrate the agency operating with a coordinating board structure is much more effective at influencing the state legislative agenda than is the agency acting as a governing board. This distinction is not based on any factors related to higher education or state politics more generally, meaning the implications for the role of the SHEEOs are substantial. Practically speaking, this means the IBHE is able to play a larger role in the production of higher education policy. By doing so, the agency is able to control its own fate to some degree, as it is likely to be tasked with the implementation of those bills which become part of the state's compiled statutes. Furthermore, to the extent that the SHEEO agency is better informed on a topic than other actors, the resulting policies may better reflect the realities of higher education institutions in the state and create greater outputs. The KBOR does not have these advantages, as the structure of the agency limits its focus to a smaller subset of issues. Accordingly, the agency may be less able to produce timely information which will be helpful in the process of problem definition. In turn, this forces the SHEEO to play more of a reactive role to higher education policy rather than playing a part in its creation as does its counterpart in Illinois.

Not only do these findings shed light on the capacity of SHEEO organizations specifically, but they also provide some understanding of the operations of bureaucratic agencies more generally. An emerging line of literature in political science suggests one of the goals of bureaucracies is to play a role in agenda setting by helping to define policy problems within their purview (Workman 2015; Workman, Shafran, and Bark 2017). The present chapter follows on this work by showing this to be empirically true at the state

level. However, this research takes our comprehension of this process a step further by demonstrating that not all agencies are equally prepared for this task. Instead, the structure of the agency itself conditions this process, primarily by determining the amount of institutional friction experienced because of the attentional limitations of the organization. Specifically, the analyses of this chapter showed centralized agencies are much more limited in this regard, meaning they are unlikely to be able to proactively effect the legislative agenda. Decentralized agencies face fewer attentional constraints, allowing them to exert more influence on the agendas of other institutions.

Overall, the models presented in this chapter largely support the theoretical expectations suggested by results of the earlier chapters. The lone exception to this rule is the surprising fact that the Kansas Board of Regents possessed no tangible impact on the state's legislative agenda. This relationship notwithstanding, the Illinois Board of Higher Education proved to have a significant impact on the agenda of the Illinois General Assembly, in both a statistical and substantive sense. Specifically, the decentralized coordinating board appears able to take advantage of the flexibility offered by its structure in order to act in advance of issues coming to legislative attention, thereby affirming the key hypothesis of this chapter. In conjunction with the findings of the earlier chapters, these results provide a detailed look at the role of bureaucracies in the production of higher education policy at the state level, a process which is discussed in greater detailed in the final chapter.

Chapter Seven: Conclusion

Bureaucracy has long been called the "fourth branch" of American government, yet has hardly been included in scholarly discussions of its policymaking. Instead, bureaucratic agencies are typically only considered during the implementation stage after policies have been adopted (Lipsky 1980; Maynard-Moody and Musheno 2003; Pressman and Wildavsky 1979). While implementation is a substantial part of bureaucracy's role, it is by no means the only interaction agencies have with public policy. Believing this to be the case is fundamentally flawed not just because of the volumes of regulatory policy made by state and federal agencies, but because these agencies have influence on the policy processes of other branches as well. This project has worked to bring the bureaucracy into the conversation in a more complete way by assessing the degree to which government agencies can affect public policy made by legislatures.

To do so, the previous chapters examined bureaucratic agendas in detail to determine the topics of information the agencies could provide to other actors. The agendas were then connected to those of state legislatures to assess the extent to which this information was being utilized in policymaking. The specific findings from these analyses are reviewed below, along with their implications. These implications include contributions to several relevant academic literatures as well as practical advice for bureaucrats and public managers. Finally, this chapter includes a discussion of future avenues of research on similar questions opened by this project.

Summary of Findings

The first empirical chapter of this project addressed the question of whether a bureaucratic agency's organizational structure affects the content and diversity of its institutional agenda. In short, the results showed this to be the case. The Kansas Board of Regents (KBOR) and Illinois Board of Higher Education (IBHE) focused on vastly different topics, with little overlap between the most and least commonly discussed issues. In terms of agenda diversity, the initial hypothesis was that the less centralized IBHE would have a more diverse agenda. This expectation was reflected in the data, which showed a higher entropy score for the IBHE agenda than for the KBOR agenda. These results suggest the coordinating board structure of the IBHE is better able to handle a wide array of substantive topics, meaning it may be better prepared to inform legislative discussions related to higher education.

A supplementary analysis was also conducted in this chapter to investigate the presence of a tradeoff between breadth and depth of coverage of agenda topics. Using the subtopics of selected agenda topics, the results showed the narrower agenda of the KBOR contained discussion of more subtopics than did the IBHE agenda. As such, the Kansas SHEEO appears to consider fewer major topics, but those which do obtain space on the agenda are discussed in greater detail than the issues on the agenda of its counterpart in Illinois.

Chapter Four focused on the degree of volatility present in bureaucratic agendas from year to year. In doing so, this chapter accounts for the temporal aspect of agendas,

as they are unlikely to remain the same for an extended period. The results from the analyses conducted in this chapter initially appeared to be somewhat mixed. When focusing on the most common topic in each state, the IBHE agenda appeared less volatile. Only one change occurred in the most commonly discussed topic for this agenda, compared to four times in Kansas. Furthermore, a higher number of topics experienced a change of ten or more mentions from one year to the next in Illinois. Seemingly to the contrary, the IBHE agenda saw greater shifts in agenda diversity from year to year. However, this trend likely reflects changes in emphasis between issues already on the organization's agenda. Meanwhile, the KBOR experienced wholesale changes from one year to the next, as reflected in the number of topics undergoing large shifts in mentions.

This logic was further supported by the final analysis of the chapter, in which the distribution of topic changes in each state was considered. The distribution of topic change on the KBOR agenda was more leptokurtic than the IBHE distribution, as it included more large shifts in attention devoted to various topics. This tendency was also reflected in L-kurtosis scores for the two distributions, again indicating greater volatility for the KBOR agenda than the IBHE agenda. Thus, Chapter Four concluded the KBOR agenda is characterized by a higher degree of volatility than the IBHE agenda. Coupled with the narrower focus of the KBOR agenda, this tendency would seem to limit the agency's ability to alert the legislature or other actors of emerging issues, as it is primarily focused on issues which are problematic in the present.

In Chapter Five, I empirically tested these speculations by linking the SHEEO and legislative agendas together. The chapter began with an overview of legislative agendas

to provide a comparison for the SHEEO analysis of the previous chapters. Following this, I turned to correlation and regression models to examine the direct relationship between the two institutional agendas in each state. The correlation models found the alignment between IBHE agendas and subsequent agendas of the Illinois General Assembly were much stronger than the alignment between the KBOR and Kansas State Legislature agendas. These results demonstrate the topics of interest in the IBHE annual reports often come up in introduced legislation one to two years later, while no such relationship exists in Kansas.

The regression models confirmed the existence of a causal relationship between institutional agendas, showing the impact was not the result of factors related to the condition of higher education or the political environment in the state. After controlling for a series of potentially confounding variables, the SHEEO agenda continued to have a statistically significant impact on predicting the legislative agendas of future years. Notably, this relationship was found only in models concerning the SHEEO's influence in Illinois, not in models focused on the impact of the SHEEO in Kansas. These results corroborate the correlation results, showing the IBHE is much more effective at influencing the legislative agenda than is the KBOR.

In sum, the findings from the three empirical chapters clearly show a difference in the operation of the Kansas Board of Regents agenda and the Illinois Board of Higher Education agenda. The centralized structure of the Kansas governing board appears to limit its capacity to consider a wide array of topics in a given year. Instead, the agency focuses on a small number of topics, which are discussed in depth. This tendency has the

effect of decreasing the diversity of the agenda, as fewer topics are on the agenda at a given time. In turn, the lack of agenda diversity results in greater volatility in the agenda from one year to the next because greater shifts are needed for the agency to begin paying attention to a new or re-emerging topic. Such frequent shifts limit the agency's ability to alert the legislature or other policymakers to upcoming issues before they reach the agenda in other ways (often as much more serious problems). Accordingly, the KBOR is largely unable to influence the agenda of the Kansas State Legislature, instead playing a more reactive role.

In Illinois, the opposite seems to be true. The decentralized nature of the coordinating board enables the agency to pay attention to a broader array of substantive topics simultaneously, leading to a more diverse agenda each year. This diversity means attending to a new or re-emerging topic only requires a shift of emphasis, not a wholesale change of topics on the agenda as for its Kansas counterpart. Because the shifts tend to be smaller, the IBHE agenda is generally less volatile than that of the KBOR. As a result, the agency is well-prepared to lead discussions on a variety of policy issues within higher education. This preparation translates into direct impacts on the state legislative agenda, as shown through the models conducted in Chapter Six.

Accordingly, the theoretical expectations presented at the outset of this project appear to be correct—institutional structure shapes the ability of bureaucratic agencies to influence subsequent legislative agendas. The flexibility offered by a decentralized structure and its capacity for parallel processing of multiple issues at once enable a tangible impact on policy, while the hierarchical structure of a centralized agency

imposes a great deal of institutional friction that must be contended with before any external impacts can be felt.

Theoretical Implications

The findings discussed above contribute to several academic literatures. The first of these literatures is that surrounding agenda setting, to which this research contributes in two major ways. First, this project brings discussions of agenda setting to the state level, which enables fuller discussions of agenda setting and how the process works at various levels of government. Specifically, the results of this work are ripe for comparison against other works studying agenda setting at the federal level to determine how these processes change from one level of government to another. Furthermore, studying agenda setting in the states provides greater variation to leverage in the analysis. Rather than focusing on a single institution, researching agenda setting in the states provides a wide array of institutional structures to assess. Using these results, the effects of factors like institutional structure on the policy process can be determined and directly compared in a way that wouldn't be possible at the federal level.

Secondly, and perhaps more importantly, this project shows the bureaucracy can be quite influential in the agenda setting process. These results imply that additional actors beyond legislators and chief executives should be included in conversations concerning agenda setting. Limiting our scholarship to assessments of how Congress and the president affect the political agenda (as has been done in much of the literature) leaves out the very real impacts of bureaucratic agents as well as other potential actors

which may have an interest in the process. By allowing these actors a role in our models, we can better account for all forces acting on the agenda, thus providing a better understanding of the origination of public policy. As such, this research furthers our understanding of how issues come to the attention of policymakers and how they are defined once they emerge.

The other academic literature impacted by these findings is that of bureaucratic politics. The results summarized in this chapter demonstrate the bureaucracy can have far-reaching impacts on the policy process, not just at the implementation or policy feedback stages. This represents a large step forward in our understanding of the role of bureaucratic agencies in general, as it greatly broadens our conception of what these agencies do on a regular basis. Moreover, this project has illustrated the impact structural factors have on the ability of these agencies to achieve their intended goals. Following research by Hammond (1986), Moe (1995), and others suggesting structure had substantial impacts on institutional agendas, little was done to investigate the mechanisms through which this effect occurred. The present research does so, arguing centralization and the resulting institutional friction are major factors affecting agency outputs. Thus, the project contributes to a fuller understanding of both how bureaucracies operate and their role in determining public policy.

Implications for Practitioners

Greater understanding of how bureaucratic organizations operate and the constraints within which they do so can also be beneficial for the employees working

within these agencies. On the most basic level, this understanding helps employees attain a better grasp of the overarching nature of their agency. They can then use this knowledge to shape their work to fit within the confines of the organization's culture or standard operating procedures. As such, a general understanding of bureaucracy can make it easier for bureaucrats to perform their jobs effectively and for managers to oversee their organizations well.

Beyond these interpersonal effects, understanding bureaucratic operations can help bureaucrats and managers to better conceptualize their role in making public policy. The results of the empirical chapters of this project show bureaucrats can influence policy choices much earlier in the process than at the implementation stage. This knowledge can help to shift the focus of agency employees from crafting regulations or other implementation efforts in response to legislation to actively partaking in the legislative process. In doing so, they can be intentional about the communication strategies they choose for disseminating information within the agency and to external actors. Tailoring communications in this way can ensure the information is well-suited to be impactful on the policy process. These actions are likely to be especially helpful for public managers, who have more frequent direct contact with legislators and other policymakers.

While there are general lessons to be learned from this research for bureaucrats in all types of policy areas, these results are clearly most applicable for bureaucrats working in SHEEO agencies themselves. Specifically, bureaucrats working in these settings can utilize the findings discussed above to obtain a firm grasp of their agency's strengths and weaknesses in attempting to influence the legislature. For instance, individuals working

for a coordinating board can capitalize on the parallel processing within the organization in order to provide information on emerging topics more quickly than other actors. Those in governing boards, meanwhile, may do better to focus on depth with regard to a few highly salient issues. In this sense, this project can help guide the actions of SHEEO staff in order to help the agencies be as effective as possible in influencing the legislative agenda and subsequent policy adoptions.

Normative Implications

The final implications of the research contained in this project are normative. Specifically, the primary research question sought to establish whether the bureaucracy influences legislative agendas and defines policy options. Viewed differently, this amounts to determining the actors who are ultimately behind the laws which get passed by state legislatures. While bills clearly must work their way through the legislative process and ultimately be approved by legislators and executives before becoming law, these are not the only points at which their content is influenced. To the extent that bureaucracies are able to impact legislative agendas, the resulting policies are being crafted by unelected agency officials.

From this perspective, the results of this research could bring up concerns about government accountability and the representativeness of public policy. If policies are influenced to a large extent by bureaucratic agencies, as the findings of this project suggest, then they are not solely the product of elected representatives in legislatures. This fact brings the question of whether the laws themselves can be considered

representative of the people's will, which could be highly problematic in a representative democracy.

While this may be a valid concern to many, I believe there is also another way to view this relationship—as a matter of expertise. Whereas legislators are expected to vote on all manner of issues spanning the full gamut of government responsibility, bureaucrats are generally tasked with only a single policy area. As such, they tend to be much better informed about the issues in that area—an idea supported by the police patrol method of legislative oversight (McCubbins and Schwartz 1984) and indirectly by the concerns of moral hazard in the political control literature (Miller 2005). It is this expertise which I argue bureaucracies are bringing to the policy process through the reporting of information to the state legislature. Furthermore, bureaucracies are able to bring legislative attention to emerging issues to be addressed before they become major problems. In doing so, these agencies are not usurping the power of lawmakers at all but are instead helping to facilitate their duties of making effective public policy. As such, the impact of bureaucratic agencies on the policy process may in fact be a beneficial way for the people to receive more successful policies from otherwise potentially uninformed representatives. Thus, bureaucratic agencies may actually be helping to establish more effective governance through their influence on legislative agendas, making the normative implications of this research net positive.

Avenues for Future Research

Despite the far-reaching implications of the present findings, there remain a lot of ways to build on this work. The first would be the inclusion of additional states in the analysis to corroborate the conclusions drawn here. Though the two states included in the present study were intentionally chosen because of their representativeness, the inclusion of more states in a similar analysis would firmly establish the applicability of the findings to other government settings. Doing so would add to the robustness and generalizability of the findings by basing the conclusions on more than one state in each classification. Furthermore, bringing additional states into a similar project would broaden the structural elements that could be included and add variation to leverage in the analysis that would further strengthen the results. In particular, a state with a less structured system of higher education and no SHEEO agency would make an ideal contribution to this work.

For example, data from the three university systems in California—the University of California system, the California State University system, and the California Community Colleges—would significantly contribute to the results presented here. California is the classic example of a state with an atypical higher education structure, as it operates without a single statewide board to oversee the state's institutions of higher education. Instead, each system operates independently and represents its particular segment of higher education in the state. Because of its unique structure, California higher education presents a particularly interesting case for adding depth to the research

done in this project. The inclusion of California (or another state with no statewide governance body) would add to the generalizability of the results found here as well as enable an assessment of different structural choices within the same political environment.

Furthermore, the data used in this project could be used to deepen our understanding of higher education policy. Most of the research in this policy area has so far focused on particular types of policies, such as student debt (Avery and Turner 2012), performance funding policies (Rabovsky 2012), tuition and affordability (Marcucci and Johnstone 2007), institutional selectivity in admissions (Kuh and Pascarella 2004), distance education (Bernard et al. 2004), or graduation rates of particular student populations (Small and Winship 2007). This tendency has not only overlooked other types of policies regulating higher education, but has also left unanswered questions about higher education policy at a general level. These are the questions which could be answered using the dataset collected for this project, as it spans the full range of higher education policies in a way that most other data related to higher education does not. In this sense, the present research could serve as a starting point for future scholars to investigate the drafting of higher education policies more fully.

A second avenue for future research based on this project would be to broaden the analysis by including non-governmental actors. Bureaucracies are not the only organizations seeking to influence legislative decision-making, as interest groups and think tanks have long been known to pursue this type of influence in the policy process (Baumgartner and Leech 2001; Olson 1971). Accordingly, external organizations are

simultaneously producing policy relevant information to provide to legislators in hopes of affecting legislative debates and policy choices. The provision of so much information leads to the bottleneck of attention in which legislators must prioritize and choose which information will be used in drafting legislation (Jones 2001; Simon 1994).

As a result, bureaucracies and other organizations are locked in a crowded environment in which a variety of actors compete for influence on resulting policies. This element of the policy process is missing from the current project, but would be a substantial addition to the findings presented. In particular, the inclusion of information provided by non-governmental groups would create a more complete picture of all the information available to legislators at the time of a decision. This would in turn create a more holistic picture of the public policy process and greatly enhance our understanding of the context of lawmaking at the state level. Furthermore, a dataset of this type would enable an assessment of which kinds of organizations enjoy the most success in influencing future legislation along with the factors which help them to do so. Thus, the addition of external organizations to a project similar to this one is a ripe avenue for future research with the potential to make strong contributions to the state politics, agenda setting, and bureaucratic politics literatures.

The final avenue for future research brought forth by this project is the translation to other substantive policy areas using similar data and models. Though the findings presented here are expected to be largely generalizable to these issues, this cannot be known with certainty until other studies address policy areas beyond higher education. In this vein, the topical coding scheme developed here could serve as a guide for other

scholars wishing to repeat the analysis in other policy domains. In addition to improving

our knowledge of an additional policy area, this type of research would solidify the

present findings and deepen our understanding of agenda setting and the role of

bureaucracies in crafting public policy.

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Appendix A: MTurk Worker Instructions

For each document, create a spreadsheet (in Excel, Google Docs, or your preferred program) into which the text can be pasted. The spreadsheet should contain 7 columns, titled as follows: title; year; page_count; paragraph_number; unit_text; unit_length; figure. A template of this document is available here. Note that if you are using this template, you will need to download it to your computer and save it separately as an Excel spreadsheet, to which a link will be provided when the task is completed.

In columns A through C, type the following information about the document: title of the document (title), year of publication (year), and number of pages in the document (page_count). These columns should have the same information in each row for the entirety of the document.

In column D (paragraph_number), **assign each paragraph a unique number**, beginning at one and counting upward until the end of the document is reached. Be sure to include the entire paragraph in the cell, even if it crosses over onto a second page. In the event of a bulleted list, create a separate paragraph number for each bullet. Tables and Figures used to display data should also be assigned a paragraph number. This does not include pictures of individuals or locations or graphics such as organization logos. **Tables of contents and indices do not need to be included; only the main body of text and any appendices.** Section titles should not be assigned a separate paragraph. Lists of board members and their titles may be considered a single paragraph.

Column E (unit_text) should contain the full text of each paragraph in a new row of the spreadsheet, and is the most important aspect of the task. **Each line of the spreadsheet should include a SINGLE PARAGRAPH, NOT A FULL PAGE**. In the case of text, simply copy and paste it into the cell exactly as written, inlcuding capitalization, punctuations, etc. Section titles should be included in the cell containing the first paragraph of the section, followed by a colon before the paragraph text. Please make sure to delete any line breaks in the paragraph so the text appears in a narrative form within the cell. For tables and figures, simply type the title of the figure into the cell for paragraph text.

For Column F (unit_length), count the number of sentences in the paragraph for each row. If a paragraph is part of a bulleted list but does not contain a full sentence, assign a value of 1 for this column. Section titles should not be counted as sentences. Leave Column F blank for tables and figures. In Column G (figure), type a 1 if the text in Column E is the title of a table or figure. For any text-based paragraphs, type a 0 in column G.

When finished, **please paste a shareable link** (via Google Docs or your preferred method) into the appropriate space below to submit the file. Bonuses will be awarded for especially high-quality work. If you have any questions about the task or would like additional time to complete the HIT, please contact the requester as soon as possible. Thank you!

Appendix B: Major Topic and Subtopic Coding Scheme

00. No Substantive Higher Education Information
      0001. Description of Report/Significant Definitions
      0002. Description of Publishing Organization and Responsibilities
      0003. Biographies of Contributors to Publication
      0004. External Information about State

01. Academics
      0101. Academic Competitions
      0102. Academic Departments/Programs
      0103. New Program Approval
      0104. Program Changes
      0105. Student Assessments
      0106. Textbooks
      0107. Courses and Registration

02. Access/Admissions
      0201. Access and Admissions, General
      0202. Admission Rates
      0203. Admission Requirements/Automatic Acceptance Standards
      0204. Yield Rates for Admitted Students

03. Accountability
      0301. Accreditation
      0302. Data Collection and Metrics
      0303. General Accountability Concerns
      0304. Performance-Based Policies

04. Administration
      0401. Campus Regulations
      0402. Institutional Board of Regents/Trustees
      0403. Governance/General Admin
      0404. Overhead Cost
      0405. President/Vice Presidents and Provosts

05. Adult Education/Non-Traditional Students
      0501. Adult/Non-Traditional Education, General
      0502. Competency Based Education
      0503. Distance Learning/Online Education
      0504. Job Retraining Programs
      0505. Non-Traditional Student Outcomes
      0506. Recruitment and Enrollment of Non-Traditional Students
      0507. Veteran/Military Education

06. Affordability
      0601. Financial Aid/Student Costs/Affordability (General)

0602. Merit-Based Scholarships

0603. Need-Based Scholarships

0604. State and Federal Grant/Scholarship Programs

0605. Students Receiving Grant Aid

0606. Work-Study Programs

07. Athletics

0701. Athletics, General

0702. NCAA/Governing Body Compliance

0703. Program Success

0704. Solvency of Department

0705. Stadiums and Facilities

0706. Student Athletes and Scholarships

08. Budgets/Resources

0801. Appropriations

0802. Budget Proposals/Budget Process

0803. Endowments

0804. Expenditures

0805. Financial Concerns

0806. Revenues

0807. Other Financial Mechanisms/General Budgeting Issues

09. Community Engagement

0901. Community Programs

0902. Events on Campus

0903. Public Service

10. Completion

1001. Completion, General

1002. Degree Production

1003. Graduation/Completion Rates

1004. Time to Degree

11. Diversity/Equity

1101. Affirmative Action

1102. Consistency with Population/Racial Achievement Gaps

1103. Diversity Programs and Offices

1104. Faculty and Staff Diversity Initiatives

1105. Low-Income Students

1106. Minority Students

1107. First Generation Students

12. Economic Outcomes and Impacts

1201. Business Incubators and Auxiliary Organizations

1202. Economic Impacts on State/Alignment with Economic Needs (General)

1203. Migration of Educated Workers

20. Preparation and Remediation
    2001. Preparation, General
    2002. Academic Standards (High School and Incoming College)
    2003. High School Preparation and Graduation Rates
    2004. K-20 Councils/Alignment with K-12 System
    2005. Remediation Rates and Programs
    2006. English as a Second Language (ESL) Students and Programs
21. Quality of Education
    2101. Quality of Education, General
    2102. Citizen Preparation (Civic and Economic)
    2103. Necessary Skills (Academic and Life)
22. Research and Faculty Publications
    2201. Research and Faculty Publications, General
    2202. Benefits/Contributions of Research
    2203. External Grants Received
    2204. Impactful Publications and Projects
    2205. Patenting/Economic Impact
23. Retention
    2301. First-Year Retention Rates
    2302. Overall Retention Rates
    2303. Retention of High School Students In-State
    2304. Retention Programs and Initiatives
24. Safety
    2401. Campus Carry
    2402. Campus Climate
    2403. Crime Rates on Campus
    2404. Sexual Assault
    2405. Student Safety Programs/General Safety Concerns
    2406. University Law Enforcement
25. Student Debt
    2501. Student Debt, General
    2502. Debt Reduction/Forgiveness/Repayment
    2503. Loan Default Rates
    2504. Subsidized/Government Loans
    2505. Unsubsidized Loans
    2506. Other Student Concerns
26. Student Services
    2601. Amenities
    2602. Child Care Services
    2603. Clubs and Organizations/Extracurricular Activities
    2604. Food Insecurity/Homelessness

Appendix C: Supplementary Tables

Table A.1: Frequency of Major Topic Codes

Topic	Frequency	Percentage
No Substantive Higher Education Information	657	6.42
Academics	151	1.52
Access/Admissions	86	0.87
Accountability	409	4.12
Administration	375	3.78
Adult Education/Non-Traditional Students	218	2.20
Affordability	802	8.09
Athletics	31	0.31
Budgets/Resources	3,939	39.72
Community Engagement	27	0.27
Completion	119	1.20
Diversity/Equity	89	0.90
Economic Outcomes and Impacts	271	2.73
Enrollment	31	0.31
Facilities	129	1.30
Faculty and Staff Concerns	166	1.67
Goals/Master Plans	122	1.23
Graduate Education	3	0.03
Honors and Awards	13	0.13
International Students	4	0.04
Preparation and Remediation	23	2.55
Quality of Education	60	0.60
Research and Faculty Publications	88	0.89
Retention	35	0.35
Safety	76	0.77
Student Debt	93	0.94
Student Services	37	0.37
System-Level Matters	550	5.55
Technology	53	0.53
Transfer Students	56	0.56
Tuition	995	10.03
Total	9,918	100.00

Table A.2: Annual Topic Mentions, Kansas Board of Regents

Topic	2012	2013	2014	2015	2016	2017
No Substantive Higher Education Information	4	2	6	5	6	5
Academics	0	4	4	3	5	0
Access/Admissions	1	0	0	0	0	0
Accountability	3	4	10	17	17	20
Administration	0	0	0	0	0	0
Adult Education/Non-Traditional Students	30	18	16	25*	14	25
Affordability	6	0	2	3	3	4
Athletics	0	0	0	0	0	0
Budgets/Resources	0	5	5	6	3	7
Community Engagement	0	0	0	0	1	0
Completion	14	17	17	14	11	15
Diversity/Equity	3	7	3	4	6	4
Economic Outcomes and Impacts	9	42*	30*	21	35*	41*
Enrollment	4	0	2	1	1	0
Facilities	0	0	0	0	1	0
Faculty and Staff Concerns	0	0	0	0	0	0
Goals/Master Plans	44*	7	14	7	6	5
Graduate Education	0	0	0	0	0	0
Honors and Awards	0	0	0	0	6	6
International Students	2	0	0	0	0	0
Preparation and Remediation	23	0	1	3	0	1
Quality of Education	6	12	1	5	16	16
Research and Faculty Publications	8	8	5	9	11	11
Retention	8	4	4	6	4	6
Safety	0	0	0	0	0	0
Student Debt	0	0	0	0	0	0
Student Services	0	0	0	0	0	0
System-Level Matters	9	2	2	2	3	3
Technology	0	0	0	0	0	0
Transfer Students	2	0	0	2	3	6
Tuition	0	0	0	0	0	0
Total	176	132	122	133	152	175

* Notes most commonly discussed topic for the year

Table A.3: Annual Topic Mentions, Illinois Board of Higher Education

Topic	2012	2013	2014	2015	2016
No Substantive Higher Education Information	18	15	15	15	14
Academics	8	9	9	0	0
Access/Admissions	0	0	0	0	0
Accountability	25	6	8	8*	4*
Administration	1	1	4	0	0
Adult Education/Non-Traditional Students	2	3	10	0	1
Affordability	7	9	8	0	0
Athletics	0	0	0	0	0
Budgets/Resources	38*	41*	42*	1	1
Community Engagement	4	3	3	0	0
Completion	13	7	8	0	0
Diversity/Equity	14	13	17	1	2
Economic Outcomes and Impacts	17	12	16	0	2
Enrollment	6	6	6	0	0
Facilities	4	2	4	0	0
Faculty and Staff Concerns	8	7	5	0	0
Goals/Master Plans	15	7	6	1	1
Graduate Education	1	1	1	0	0
Honors and Awards	0	0	1	0	0
International Students	0	0	0	0	0
Preparation and Remediation	17	2	9	0	0
Quality of Education	3	0	1	0	0
Research and Faculty Publications	0	1	1	0	0
Retention	0	0	0	0	0
Safety	1	0	1	0	0
Student Debt	1	0	1	0	0
Student Services	1	0	0	0	0
System-Level Matters	14	20	17	1	2
Technology	0	0	0	0	0
Transfer Students	1	2	0	0	0
Tuition	0	0	2	0	0
Total	219	167	195	27	27

* Notes most commonly discussed topic for the year

Table A.4: SHEEO Agenda Diversity by Year

Year	Kansas Entropy Score	Illinois Entropy Score
2012	2.37	2.70
2013	2.17	2.55
2014	2.35	2.73
2015	2.49	1.18
2016	2.55	1.57
2017	2.42	--
Overall	2.50	2.65

Table A.5: Statewide Higher Education Funding*

Year	Kansas	Illinois
2012	5,803	11,860
2013	6,114	13,450
2014	6,005	13,483
2015	6,120	13,902
2016	5,873	11,646
2017	5,847	--

* Funding reports appropriations per full-time equivalent
student at public institutions of higher education.
Data Source: State Higher Education Executive Officers
Association, 2017 State Higher Education Finance report

Table A.6: Statewide Higher Education Enrollment*

Year	Kansas	Illinois
2012	142,967	384,615
2013	140,182	373,103
2014	138,310	362,508
2015	137,036	351,917
2016	135,366	341,273
2017	134,716	--

* Enrollment reported reflects net full-time equivalent students at
all public institutions of higher education in the state.
Data Source: State Higher Education Executive Officers
Association, 2017 State Higher Education Finance report

Table A.7: Statewide Number of High School Seniors*

Year	Kansas	Illinois
2012	32,478	145,047
2013	32,810	146,273
2014	32,989	144,566
2015	32,731	147,588
2016	33,667	147,993
2017	33,784	--

* Enrollments reflect all Grade 12 students in the state, including
private and home-schooled students.
Data Source: U.S. Department of Education, National Center for
Education Statistics, Common Core of Data (various reports)

Table A.8: State Legislature Ideological Median Scores*

Year	Kansas House	Kansas Senate	Illinois House	Illinois Senate
2012	--	0.287	-0.187	-0.409
2013	0.665	0.775	-0.190	-0.436
2014	0.625	0.781	-0.217	-0.429
2015	0.606	0.793	-0.235	-0.436
2016	0.609	0.793	-0.235	-0.436

* Scores reflect the median ideology of all legislators in the chamber and are based on a scale ranging
from
-1 (Liberal) to +1 (Conservative).
Data Source: Shor, Boris, and Nolan McCarty. 2011. "The Ideological Mapping of American Legislatures."
American Political Science Review 105(3): 530–51.

Table A.9: Regression Results, SHEEO Impacts on Legislative Agendas (Two-Year Lag in Legislative Agendas)

	Model 1: Full Dataset	*Model 2:* Kansas	*Model 3:* Illinois
Intercept	-2.438	8.486**	-20.790
SHEEO Agenda	5.297***	-0.078	11.395***
Adjusted R²	0.188	-0.008	0.431

*** = p < 0.001, ** = p < 0.01, * = p < 0.05

Table A.10: Regression Results, SHEEO Impacts on Legislative Agendas, Controlling for Higher Education Factors (Two-Year Lag in Legislative Agendas)

	Model 1: Full Dataset	*Model 2:* Kansas	*Model 3:* Illinois
Intercept	19.2206	554.8000	854.6000
SHEEO Agenda	5.1853***	-0.0680	11.5400***
Higher Education Funding (per FTE)	-0.0016	-0.0180	0.0011
Statewide Higher Education Enrollment	-0.0012	-0.0009	0.0339
High School Seniors	0.0042	-0.0160	N/A
Adjusted R²	0.2086	-0.0238	0.4333

*** = p < 0.001

Note: Coefficient for High School Seniors could not be defined in Model 3 due to high collinearity with the Higher Education Funding variable for the included years (r = -0.75).

Table A.11: Regression Results, SHEEO Impacts on Legislative Agendas, Controlling for Political Factors (Two-Year Lag in Legislative Agendas)

	Model 1: Full Dataset	*Model 2:* Kansas	*Model 3:* Illinois
Intercept	1.502	88.570	-680.339
SHEEO Agenda	6.526***	0.004	11.537***
House, Median Ideology	-26.477	2.212	-25.167
Senate, Median Ideology	-3.879	964.000	-1539.371
Adjusted R²	0.251	-0.026	0.433

*** = p < 0.001

Note: The New Governor variable could not be included in the model with two-year lags due to a lack of variation.