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ACCOUNTABILITY AND PERFORMANCE IN HIGHER EDUCATION: PROMISE, POTENTIAL, AND PITFALLS OF PERFORMANCE MANAGEMENT

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Abstract

In recent years, performance based accountability regimes have become increasingly prevalent throughout government. This dissertation explores the role of performance data in higher education policymaking, both in terms of external accountability and oversight, and in terms of internal management. At the center of this discussion are debates about the proper role of quantifiable data about institutional performance and the appropriateness of various approaches for measuring and tracking student success. As tuition rates have skyrocketed and the American economy has faced increased pressure from the international arena, American universities have struggled to satisfy demands for improved performance. Policymakers have responded to these concerns by pursuing a range of policies aimed at increased accountability and a heightened emphasis on organizational performance, particularly with respect to budgeting. Similarly, many organizations have employed their own voluntary systems to track various metrics of performance as a tool to enhance internal management and improve student outcomes.

But despite the widespread these popularity of accountability policies, and the increased availability of quantitative performance data, there remain substantial questions about the extent to which these reforms have been successfully integrated into policymaking and implementation. This dissertation draws on data collected from publicly available datasets (IPEDS), in combination with a survey of presidents at public colleges and universities, to assess the impacts of performance

funding and performance management in higher education. In doing so, it makes important contributions to literatures on performance management as well as political control and bureaucratic values.

Chapter III focuses on performance regimes and their impacts on agency budgets, while Chapter IV centers on issues related to the role of performance information in inter-institutional policymaking. Chapter V examines the factors related to the use of performance management strategies for internal management functions. Overall, the findings suggest that performance funding policies have generally been ineffective and that they have often become highly politicized and ideologically driven. Particular emphasis is placed on thinking about the causal logic of performance based accountability, as well as the role of bureaucratic values and organizational capacity in shaping the effectiveness of these reforms.

Chapter I - Introduction

In recent years, performance based accountability regimes have become increasingly prevalent throughout government. One area where this trend has become salient is higher education (Huisman and Currie 2004; King 2007; McLendon, Hearn, and Deaton 2006). As tuition rates have skyrocketed and the American economy has faced increased pressure from the international arena, American universities have struggled to satisfy demands for improved performance. According to the most recent data, the average public college in America graduates less than 60% of its students, and graduation rates for many minority groups are even lower (Carey 2008). This has caused a significant shift in the way that we think about the need for accountability and transparency with regards to higher education. Whereas policymakers a generation ago were often willing to take a more passive and hands off approach to regulation and oversight of public universities, today there are increasing demands for universities to be held accountable for performance, particularly with respect to costs and undergraduate student outcomes (Casper and Henry 2001; Liefner 2003; Zumeta 2001).

At the center of this new trend are debates about the proper role of quantifiable data about institutional performance and the appropriateness of various approaches for measuring and tracking student success (Archibald and Feldman 2008; Espeland and Sauder 2007; Ewell 2007; Kuh and Ikenberry 2009; McLaughlin and McLaughlin 2007; Spellings 2006). Today, more than ever, public universities are often required to collect, report, and analyze data across a

wide range of performance indicators. Further, universities are increasingly developing their own internal systems to track various forms of performance outcomes so as to be more efficient and effective.

But despite the widespread availability of this data, there remain substantial concerns about the extent to which it has been successfully integrated into policymaking and implementation (Aldeman and Carey 2009; Burke and Minassians 2003). Too often, some observers worry, these performance management systems have become irrelevant, with performance information buried in lengthy tomes that few people ever read or access (Aldeman and Carey 2009). Others are concerned that even when these data systems are taken seriously and are given substantial weight in policymaking and management decisions, they will create perverse incentives for institutions to game performance data at the cost of equity and access, particularly for low-income and minority students (Fryar 2011; Huisman and Currie 2004).

This dissertation explores the role of performance data in higher education policymaking, both in terms of external accountability and oversight, and in terms of internal management. The central theme that guides this project is a quest to understand how and why individuals and institutions, in various contexts, use (or do not use) performance data, and whether this shift towards data driven governance has had meaningful consequences, good or bad.

External Accountability: The Case of Performance Funding in Higher Education

In terms of state-driven accountability policies, this trend towards performance management has largely manifested itself through budgetary reforms and increased information reporting requirements. In some cases, this has involved relatively superficial and symbolic attempts to gather and publicize information about university performance, but in others this has resulted in a shift towards the adoption of performance funding policies that are designed to directly tie institutional funding to benchmark indicators on student outcomes (Burke and Minassians 2003). These performance funding policies have been quite controversial and garnered considerable attention from academics and practitioners alike (Aldeman and Carey 2009; Dougherty and Reddy 2011; Herbst 2007; McLendon, Hearn, and Deaton 2006).

Those in favor of performance funding lament the lack of external pressure on institutions to improve student outcomes and have emphasized the importance of using outcome measures as a way to incentivize improved institutional performance (Aldeman and Carey 2009; Burke and Minassians 2003; Kelly, Schneider, and Carey 2010). Rather than allocating resources primarily on the basis of inputs (such as enrollments), these reformers seek to shift the funding mechanisms to student outcomes, such as graduation rates and degree production. They argue that under traditional budget arrangements, universities often have little incentive to care much about student outcomes, and have thus tended to focus their

energies elsewhere. As a result, many believe that public universities do not adequately devote resources to ensure that students complete their degree and attain positive post-graduate employment outcomes (Aldeman and Carey 2009; Burke 2005; Carey 2008; Complete College America 2010b). By reformulating the incentives that institutions face, such that they are rewarded or punished primarily based on actual performance rather than simple input measures, performance funding advocates seek to stimulate shifts in institutional behavior that will result in greater efficiency and productivity.

This, of course, assumes that institutions are currently inefficient, that they are not already allocating resources and attention in optimal ways, and that shifts in institutional behavior, particularly with regards to placing greater emphasis on undergraduate education and student retention and completion, will, in fact, improve performance. Critics have questioned many of these assumptions and have pointed out that performance funding could potentially result in a narrow focus on a small number of indicators, which could cause institutions arbitrarily raise admissions standards so as to deny access for students that are harder to educate or to dilute the quality of education via grade inflation in order to improve their "performance" as measured by these funding systems (and thus boost their budgets) (Fryar 2011; Hunt 2008; Wellman 2001; Zumeta 2001).

Despite the widespread attention these policies have received, we still know remarkably little about what impacts they might be having. While there have been a few notable attempts to uncover the impacts associated with these higher

education performance funding policies (Dougherty and Reddy 2011; Shin and Milton 2004; Shin 2010; Volkwein and Tandberg 2008), our knowledge about them has thus far largely been based on anecdotal evidence and limited case studies (Banta, Rudolph, Dyke, and Fisher 1996; Doyle and Noland 2006; Sanford and Hunter 2010). In particular, the basic logic of these policies is premised on the idea that by restructuring the financial incentives that institutions face, universities will focus more extensively on activities that should improve performance, but it remains unclear whether these policies have, in fact, reformed financial incentives, or whether institutions have responded in meaningful ways.

Further, while much of the discussion about accountability and performance in higher education has rightly focused on the ways that state-level actors hold universities accountable, this narrow focus on political control paints an incomplete picture of the role that data and performance information has played in higher education policymaking. Anecdotal and case-study research reveals that public universities are not passive in the adoption or implementation of performance management regimes (Dougherty and Natow 2009; Dougherty and Reddy 2011; Dougherty et al. 2010). Rather, they often actively participate in selecting measures and designing the policies themselves. Further, as the external environment in many states has become increasingly hostile to higher education, some universities have begun to think about ways to use performance data strategically in order to build political support and demonstrate public value. As

one university president said in a recent survey conducted by the National Center for Public Policy and Higher Education:

> "If we can come up with a way of demonstrating that we have impact, and somehow getting our arms around the metrics that express that, I think we'll be doing ourselves and the future of the country a great favor. I'm guardedly optimistic. We have in higher education such a difficult time showing the impact of what we do, whether it's a department that is making a change in a curriculum or a university that's refocusing its efforts to be more fully engaged in economic development. We just don't do a very good job of being able to account for all of that in the same way that a business can, for example, demonstrate the impact on the bottom line (Immerwahr, Johnson, and Gasbarra 2008)."

Thus, if we want to understand the impacts of performance information on higher education policymaking, it is important to consider the capacity for universities to behave strategically. While the dominant narrative regarding higher education and accountability suggests that performance data is often used to target institutions or to limit their autonomy, there are likely to be many instances where universities purposively use data to improve external relations, build political support, and pursue their own goals.

Voluntary Performance Management Systems: Internal Use of Performance Data

In addition to mandatory, externally imposed performance policies that have dominated the inter-institutional policymaking environment, many public universities have employed voluntary internal systems that seek to connect performance information with administrative practices in ways that will improve student outcomes. As opposed to the external, inter-institutional accountability policies discussed previously, these systems are generally more inwardly focused.

Rather than the oversight/control framework that dominates external systems of performance management and budgeting, these systems are designed to be used by managers in their staff for internal organizational purposes. In this context, performance data represents a mechanism for managers to identify strengths and weaknesses, to measure improvement over time, to learn from mistakes, and, ultimately, to improve performance (Behn 2003; Ewell 2011; Moynihan and Landuyt 2009; Spillane 2012).

Despite the potential benefits associated with performance management, institutions also face several challenges in implementing performance management systems. These include both technical limitations and challenges related to organizational culture. With regards to technical limitations, universities, like any other organization seeking to implement a new performance management system faces challenges related to the design of appropriate measures, the construction of databases and computer systems to record and track results, and expertise associated with quantitative analysis of this data (Ewell 2011). Because higher education involves a complex assortment of goals and activities, designing adequate outcome measures that are valid and reliably capture the multifaceted nature of performance in higher education performance is not as straightforward as we have seen in some other policy areas, such as transportation, where it is perhaps easier to identify and isolate appropriate metrics of organizational performance (Poister, Pasha, and Edwards 2012). Further, as state budgets have become constrained in recent years, and appropriations to public universities have fallen,

many institutions have very few slack resources to devote to new programs and management systems.

In terms of organizational culture, universities have traditionally seen themselves as complex organizations that are responsible for more than vocational training, and this makes issues related to quantified measurement of performance complicated. Many of the things that universities seek to do for students, such as encouraging long-term personal development and exposing them to new ideas, experiences, and perspectives are difficult, if not impossible, to quantify. Further, as the external political environment has become increasingly hostile to higher education, faculty and staff often perceive these data systems as an attempt by university administrators to encroach on their autonomy and expertise, which can create a dysfunctional environment characterized by fear and mistrust rather than learning and adaptation (Ewell 2011). Thus, there remain several questions about both the extent and effectiveness of performance information use within public universities (Coburn and Turner 2012; Colyvas 2012; Ewell 2011).

Theoretical Contributions

This dissertation project seeks to make several important theoretical contributions to literatures in public policy and public administration. First and foremost is the literature on performance management, especially the more recent work regarding utilization of performance data (Van Dooren and Van De Walle 2008; Moynihan 2008). Much of this scholarship seeks to understand the conditions under which actors in various institutional contexts (citizens, executives,

legislators, managers, etc…) will use performance data to substantively inform decisions and craft policy. Higher education is an obvious place to examine these questions, for a couple reasons. First, as previously discussed, this is a timely topic that has received considerable attention throughout the higher education community in recent years. More importantly, it provides area with considerable variation, on both institutional/political variables (state governance characteristics and external political environment), and organizational variables (mission, size, selectivity, resources, etc…). This gives substantial leverage to examine many of the theoretical concepts related to the impact and importance of these variables with respect to performance information use.

Secondly, this dissertation exploits variation in the institutional settings and actors involved with internal and external performance management systems to better clarify the situations in which data-driven decision making is likely to be productive. This speaks to the heart of questions related to the importance of institutional design and the mechanisms for learning and change, at both the individual and institutional levels. These topics long have been central to scholarship related to both policy process (Jones and Baumgartner 2005; Sabatier and Jenkins-Smith 1993) and organizational theory (Argyris 1993; Levitt and March 1988; March and Olson 1983). Further, much of this discussion regarding performance data in higher education centers on debates about control and oversight, with questions about the extent to which quantitative performance data can reduce information asymmetries and improve external oversight, and about the

ways in which organizations can use information to build political support and attain greater autonomy (Dougherty and Reddy 2011). Thus, this dissertation can make serious contributions to theory in areas related to literatures on political control and bureaucratic values.

Third, as previously discussed, higher education represents a policy area where it is challenging, though perhaps not entirely unreasonable, to use performance management effectively. These institutions have diverse goals and missions, some of which (such as graduation rates and retention) are fairly easy to track quantitatively, but others (such as personal growth and development, overall contributions to culture, knowledge, and diversity) that are much more difficult to measure. In contrast to some of the other types of public agencies where some researchers have found performance management to be effective (Behn 2006; Broadnax and Conway 2001; Poister, Pasha, and Edwards 2012; D. C. Smith and Bratton 2001), many of which have tended to be relatively narrow and technically oriented, higher education is considerably more complicated and messy. This "messiness" with regards to performance, however, is representative of the experiences that many, if not most, public agencies face (Radin 2006). Thus, as we think about potential of performance management with respect to improving performance throughout the public sector, insights from experiences with performance data and information use in higher education are advantageous in terms of identifying challenges and limitations.

Additionally, as a result of federal and state reporting requirements, higher education has already developed a relatively well established indicators and performance metrics. As opposed to some other areas, where performance metrics and guidelines for data measurement are less well established, this makes it considerably easier to understand the way that actors perceive attempts to measure performance, and to evaluate the relationship between managerial and organizational behavior various performance metrics. On the other hand, performance measurement in higher education remains open for discussion and debate, and is thus not so rigid as to preclude variation in terms of perceptions regarding the validity and legitimacy of competing approaches to measure. In other words, performance data in higher education is well developed enough to connect with theoretical concepts such as efficiency and equity, but is also subject to the kinds of persistent debate and disagreement that characterize policymaking across a wide range of areas. Thus, it provides real leverage to understand how issues related to the development and maturation of these systems affect questions of policy process and policy implementation.

Chapter Outline

Chapter II discusses the theoretical literatures in public administration and public policy that will be used to frame this discussion and generate hypotheses. In particular, chapter II will define key concepts related to performance management and information use/utilization and will discuss important differences in the meaning and use of these concepts across institutional boundaries and

policymaking settings. This chapter also lays the foundation to inform subsequent efforts at model specification and identification of important causal relationships between the dependent variables of interest and their respective predictors.

Chapter III focuses on performance regimes and their impacts on agency budgets. As previously mentioned, states have increasingly moved towards a model of funding formulas that include quantitative measures of performance in recent years. This chapter will speaks to a well-developed line of scholarship on the effectiveness of performance reforms in public budgeting, but will also have implications for policy debates surrounding these controversial funding policies. One the main goals of these policies is to reform the budgetary process so as to restructure the financial incentives that universities face vis-à-vis student achievement, but it remains unclear whether they have been successful at doing so, and if so, whether this has had any noticeable impact on institutional behavior.

Chapter III uses a publicly available dataset from the Integrated Postsecondary Data System (IPEDS), which is collected and administered by the Department of Education and covers all public 4-year universities in the United States, to uncover what impacts (if any) performance funding policies have had on state appropriations to public colleges and universities with regards to linkages with student performance. Further, chapter also examines institutional spending patterns to determine if performance funding policies have been effective in reshaping institutional priorities with respect to research and undergraduate instruction.

Chapter IV centers on issues related to the role of performance information in inter-institutional policymaking. This chapter will be of particular relevance for those interested in issues related to political control, bureaucratic politics, and inter-institutional dynamics. More specifically, this chapter is focused on understanding university presidents' perceptions regarding the appropriateness of performance based funding. To do so, I rely on a survey of public university presidents that was conducted following the 2011-2012 school year.

Chapter V uses the aforementioned survey data to understand why organizations choose to employ performance management strategies. A developing body of research has suggested that performance management may be of much greater use at the organizational level than it is in inter-institutional contexts, but it remains unclear why some organizations heavily use quantitative performance data while others do not (Van Dooren and Van De Walle 2008; Moynihan and Pandey 2010). Further, given the wide range of tasks that performance management might be useful for, there remain important questions about differences in use for various goals and activities (Behn 2003). This chapter explores the factors that shape decisions about whether to use performance information for internal management and the challenges that managers face in implementing performance management systems. These findings should be of particular value to public management scholars, especially those who are interested in understanding processes of organizational change and learning.

Finally, chapter VI concludes with a discussion of key findings and implications for both theory and practice. Performance management continues to be a popular topic amongst both academics and practitioners, and there remain several questions about its impacts on public universities. This dissertation seeks to contribute to a growing literature on performance information and its role in public policymaking and public administration, by focusing on whether (and how) performance information influences actors throughout the policymaking process to behave differently than they would in the absence of this information. This, as I will argue more extensively in chapter II, is the key to determining the value of performance management systems in higher education.

Chapter II – Theoretical Framework

Efforts to design, collect, disseminate, and analyze measures of performance in order to hold agencies accountable and promote organizational learning have come to play a dominant role in public administration over the last two decades (Brudney et al 1999; Frederickson and Frederickson 2006; Melkers and Willoughby 1998; Moynihan 2008; Radin 2006). Although these attempts to incorporate quantitative measures of performance into public management systems are hardly new (Van Dooren 2008; Williams 2003), there has been a particularly strong trend towards greater use of this information in the public sector in recent years. In an era that has been marked by widespread distrust of government and skepticism about the effectiveness of public organizations, citizens and policymakers have increasingly pushed for accountability mechanisms that focus on outcomes and impacts rather than inputs and outputs (Radin 2006). As a result, virtually every public agency, at all levels of government, now collects and reports data on a variety of performance indicators. As Beryl Radin writes, this performance management "movement" has become "a pervasive element in the world we live in (2006, 1)." And yet, there remain serious questions about whether this shift towards performance has been good, bad, or inconsequential.

One area where this discussion has become salient is higher education. In recent years, there have been several initiatives, at both the state and federal levels, to directly link performance to funding (Aldeman and Carey 2009; Burke 2002; Spellings 2006; Zumeta 2001). In addition to these mandatory performance

policies, many public universities have employed voluntary internal systems that seek to connect performance information with administrative practices in ways that will improve student outcomes. This dissertation project examines these recent experiences with performance management in higher education to gain leverage on important questions regarding the use of performance information policymakers and public managers. In doing so, I also hope to shed light on recent debates related to governance and the appropriate role of accountability and student outcome data in higher education policy.

What is "Performance Management"?

Before proceeding any further, it is probably a good idea to provide a basic definition for what I mean by "performance management," as the term has come to be used in varying ways in existing scholarship. I adopt Donald Moynihan's definition of performance management as "a system that generates performance information through strategic planning and performance measurement routines and that connects this information to decision venues, where, ideally, the information influences a range of possible decisions (Moynihan 2008, 5)." It is important to note that this definition encompasses a broad spectrum of activities that revolve around the use of performance data, including budgeting and external accountability (i.e. "performance funding") as well as the use of data by agency leaders to influence day to day management.

In addition to acknowledging the wide range of institutional settings and venues where performance management occurs, this definition is particularly

useful, I argue, because it places explicit emphasis on mechanisms by which performance information influences *behavior* and *decisions*. In other words, it forces us to ask "What is it that policymakers and other actors actually *do* with this data (if anything)?"

This focus on human decision-making is valuable because draws our attention to the fact that performance data, on its own, is relatively powerless as a change agent. Rather, the information that these systems produce must be given meaning by human actors. For instance, according to the latest available data, approximately 63 percent of undergraduate students at the University of Oklahoma earn a bachelor's degree in six years or less (IPEDS 2011). OU also has lower entrance requirements, charges less for tuition, and collects less in state appropriations than many other flagship institutions (IPEDS 2011), and Oklahoma's K-12 system has historically performed poorly on a variety of indicators (NCES 2011). Given these facts, does a 63 percent graduation rate signify strong performance despite the many challenges that the university faces, or is there is a problem that needs to be addressed? If it is the latter, then who is responsible, and what should policymakers and agency officials do in order to try and achieve a more desirable outcome? Raw data, though potentially useful as a way to provide context and basic information about performance, cannot answer these important questions. Ultimately, then, whatever effects that performance regimes have on public management (both good and bad) will be the result of their impact on human behavior and decision making. In this sense, performance data is

meaningful only insofar as it causes human actors to behave in a manner that they would not do otherwise.

Performance Management and NPM

Several scholars, including Moynihan, have argued that recent performance reforms are closely linked to New Public Management (NPM) and "reinventing government" doctrines that emphasized a shift towards orienting accountability mechanisms on results rather than compliance or procedural control (Van Dooren 2008; Frederickson and Frederickson 2006; Moynihan 2008; Radin 2006). The NPM doctrine argues that traditional approaches to public management have left many organizations overly encumbered by rigid rules and poorly structured incentives that result in inefficiency, waste, and underperformance. Public managers, NPM reformers argued, should be given greater freedom to be entrepreneurial and flexible in pursuit of solutions to complex problems, but should then be held accountable if their solutions do not work (and rewarded if they do) (Barzelay 1992; Hood 1991; Osborne and Gaebler 1992). Thus, performance management systems both serve as a check against managerial discretion, and as a learning tool that helps organizations to identify problems and chart progress towards long-term strategic goals (Behn 2003).

Performance Management: Three Views

Scholarship on performance management can generally be separated into three camps. First are the proponents, who see performance management as a tool for government reform that can: 1) promote rationality and objective assessments

of programs as an alternative to politically biased mechanisms of funding and support, 2) enhance long-term strategic planning by connecting pre-defined goals with measurable outcomes, 3) improve accountability by reducing information asymmetries between political actors and the bureaucracy, and 4) result in organizational learning and improvement so that government agencies can better address difficult social problems such as poverty, crime, and achievement gaps in educational attainment (Barzelay 1992; Behn 2003; Broadnax and Conway 2001; Burke 2005; Hatry 2006; Keehley et al 1997; Osborne and Gaebler 1992; Smith and Bratton 2001; Thomas 2001).

Second are critics, who argue that performance management is usually ineffective at accomplishing many of its stated goals and that it often incentivizes dysfunctional behavior (Bohte and Meier 2000; Durant 2008; Jacob and Levitt 2003; Joyce and Thompkins 2002; Marshke 2001; Radin 2000, 2006; van Thiel and Leeuw 2002; Wilson et al 2006). In large part, critics contend that performance regimes are based on faulty assumptions regarding the nature of policy debates, the practical realities of policy implementation, and the limits of human cognition. As a result, they argue that these reforms rarely work as well in the real world as proponents promise.

Finally are those whom I categorize as the cautiously optimistic. These scholars are largely sympathetic to the claims made by critics regarding the shortcomings of performance management systems, but they also see potential for these reforms, under the right conditions, to have a positive impact on governance

(Franklin 2000; Grizzle and Pettijohn 2002; Heinrich 1999; Melkers and Willoughby 2001; Moynihan 2008; Schick 2001; Streib and Poister 1999; Thurmaier and Willoughby 2001; Wang 2002). Much of the research in this vein has concluded that performance management typically has negligible impacts on issues related to external accountability, control, and budgeting, but that there is reason to be optimistic about the possibilities for these reforms to lead to internal dynamics within agencies that promote learning and change (Moynihan 2008). As the empirical chapters to follow demonstrate, this dissertation project fits best within this third camp.

How is Performance Information Used?

Despite the extensive debate regarding the pros and cons of performance management, there has, until very recently, been relatively little progress in establishing a theoretically motivated empirical research agenda to understand *how* and *why* performance information is used by various actors in the policymaking process (Van De Walle and Van Dooren 2008; de Lancer Julnes 2008; Moynihan and Pandey 2010; Pollitt 2006a). One hurdle in achieving theoretical development regarding the use of performance information is the multi-dimensional nature of the subject. As de Lancer Julnes (2008) notes, there are strong parallels between the types of potential uses for performance information and the modes of utilization that Carol Weiss (1979, 1998) observed in studies of program evaluation and policy analysis. While most scholars have tended to focus on "instrumental" use, where performance information is directly connected to decision-making, there are other

forms of use that are also important. Chief amongst these are "enlightenment," where performance information carves out the boundaries for debate and can influence long-term shifts in policy, and "persuasion," where actors use performance information to defend pre-existing preferences and ideological positions (De Lancer Julnes 2008; Weiss 1979, 1998). Research from the literature on theories of the policymaking process finds that these latter two forms of use are often the primary channels for influence of social science research and analysis on policy change (Jenkins-Smith 1988; Sabatier and Jenkins-Smith 1993).

As previously discussed, performance management systems have the dual purpose of improving external accountability mechanisms for the purposes of political control, and promoting internal learning within an organization. Thus, when thinking about the potential uses of performance information, it is also important to consider an actor's institutional position, as this is likely to influence their motivations for use, their access to expertise necessary to put performance numbers into an appropriate context, and the rules that govern the number and type of other decision-makers who have access to the venue in which they operate (Behn 2003; de Lancer Julnes 2008; Moynihan 2008). Citizens and lawmakers are situated in roles that lead them to be primarily concerned with control and accountability, while managers are often focused more on implementing changes that result from performance management systems (Behn 2003; de Lancer Julnes 2008; Moynihan 2008).

Performance Information Use by Elected Officials

The primary mechanism that elected officials have for using performance information is in the budget process. The logic of performance management rests on the assumption that budget makers can use appropriations to reward agencies that perform well and punish those that perform poorly. In doing so, they hope to create incentives for managers that mimic the bottom-line/profit motivator from the private sector. Ideally, these new incentives will result in changes in behavior that are then translated into improved performance and desirable client outcomes. A considerable body of research, however, suggests that performance information is rarely used (in instrumental terms at least) by elected officials (Brudney et al 1999; Gilmour and Lewis 2006a, 2006b; Hou et al 2011; Joyce 1999; Melkers and Willoughby 2001; Moynihan 2008; Newcomer 2007; van Thiel and Leeuw 2002; Thurmaier and Willoughby 2001; U.S. GAO 2005a, 2005b).

One explanation for this lack of use is that performance metrics are not, despite the claims of some reformers, value neutral (Stone 1988). Because policy debates generally center on normative values regarding the appropriateness of various kinds of government activity (Sabatier and Jenkins-Smith 1993), people possess intensely held beliefs regarding the dimensions along which performance should be measured. These normative differences make it virtually impossible for actors to agree on a single measure of performance, and frustrate attempts to reach consensus on the appropriate weights to assign to performance on indicators attached to competing outcomes (Frederickson and Frederickson 2006; Nathan

2005; van Thiel and Leeuw 2002). Thus, performance management systems tend to either focus on a handful of contentious indicators, such that many actors perceive the entire regime as illegitimate and are thus unwilling to use this information as a basis for decision making, or they include so many indicators as to completely dilute the importance and meaning of any single measure, negating the purpose of the exercise.

Second, as both Gilmour and Lewis (2006b) and Moynihan (2008) point out, it can be unclear whether poor performance should be met with reduced or increased funding. Some observers may interpret poor performance as evidence that an organization needs additional resources in order to accomplish important tasks, and thus push for more funding. For example, many critics of K-12 accountability policies, such as No Child Left Behind (NCLB), contend that these regimes are likely to create negative feedback loops that make it virtually impossible for schools serving vulnerable and at-risk populations to close achievement gaps or improve student outcomes (Neill 2003). Many times, determinations on how to interpret performance data are driven by ideological preferences regarding the value/merit of the program, rather than on any objective assessment of performance data. Thus, performance management systems are often unable to overcome the cognitive limitations and biases that result in political gridlock and incrementalism.

Despite the sobering evidence on the lack of instrumental use by lawmakers, there are some reasons to believe that information about performance

can still be an important factor that shapes policymaking and oversight, though perhaps not in the ways that NPM reformers have advocated. For instance, even though performance funding systems often fail to materialize the desired shifts in economic incentives, we may still observe positive responses from agency leaders. In the area of higher education, for example, Dougherty and Reddy (2011) note that university presidents have sometimes responded to performance funding policies aggressively, not because they believe that doing so will improve their budgets, but rather because they are competitive personality types who want to earn "bragging rights" against other institutions and boost their own egos. Others find that even when these policies are mostly symbolic, they can send powerful signals to agency leaders regarding the preferences of external stakeholders (Dougherty and Reddy 2011; Moynihan 2008, 2009). Sometimes the mere threat of performance based accountability can be enough to drive agency leaders to act (though perhaps not as dramatically as they would if sanctions and incentives were actually present).

Unfortunately, we need still need more systematic research regarding the mechanisms by which performance funding policies are designed to operate, particularly in areas such as higher education. The causal logic that underlies performance accountability mechanisms implies that incentives will be restructured in a way that results in changes in management that are geared towards improving performance with respect to client outcomes. Sadly, however, much of the research that examines the impacts of these policies, particularly in the area of higher education, skips the intermediate links in the causal chain and focuses exclusively

on whether their adoption improves performance. Thus, while several studies have emerged in recent years to explore the extent to which these performance funding policies are successful in improving student outcomes (Fryar 2011; Sanford and Hunter 2010; Shin 2010; Volkwein and Tandberg 2008), many of which suggest that they have not been, we know very little about why performance funding has, at least to this point, been so ineffective. If we are to understand anything about why these types of policies work or do not work, we must begin by understanding whether they are successful in changing the incentive structures that public managers face, and whether managers respond to these incentives in the ways that policymakers hope they will.

Second, one might cite the mere fact that debates regarding the construction and dissemination of this information are often extremely contentious as evidence that these performance regimes are not altogether inconsequential. If performance information was completely irrelevant and no one paid any attention to it, then there would be no reason for competing coalitions to expend so much time and energy fighting over which indicators are used and how these measures are constructed. And yet, previous research has consistently concluded that debates regarding the design of performance management systems are often times at the center of conflicts regarding agency budgets and legislative oversight, particularly in areas like higher education (Dougherty and Natow 2009; Dougherty et al 2010; Leslie and Berdahl 2008; Richardson and Martinez 2009; Shakespeare 2008).

Further, while it is true that many policy debates are centered on normative disputes that are ultimately impossible to resolve through objective criteria, actors must still rely on empirical evidence (though perhaps a selective incorporation of this evidence) to construct persuasive arguments (Jenkins-Smith 1988; Sabatier and Jenkins-Smith 1993). As such, performance information can be used as part of an "interactive dialogue" (Moynihan 2008), where budget debates are shaped by attempts at persuasion that are based on interpretations of performance data. Despite the subjective nature of data interpretation, performance information can tether political arguments to some objective measure of agency productivity. Thus, performance information might not result in direct action, but it can force policy actors to ground their arguments on some objective evidence, thereby restricting the range of alternatives that are politically viable (Moynihan 2008).

Finally, while scholars often think about performance metrics as a mechanism for oversight and control, it is important to note that agencies might also benefit from the use of performance information. Because there are so many ways to measure performance, skillful use of performance information may actually be one way that agencies can increase their discretion and autonomy. By constructing measures of performance that statistically demonstrate the value of their organization, agency officials might be better positioned to cement their credibility as competent experts who political actors should defer to. Particularly in the current political environment, where rhetoric regarding the need for evidence based policy is increasingly strong, agencies that can point to objective measures

that support their goals and activities are less vulnerable to budget cuts than those which rely purely on anecdotal evidence or emotionally charged messages. As Moynihan (2010, 287) writes, "Performance information has not eliminated information asymmetry between principals and agents, but it has allowed agents yet another means by which to *exploit* (emphasis original) asymmetry." Thus, performance data, when wielded correctly, is a tool that bureaucrats can use to stave off hostile advocacy coalitions and legislative actors who attempt to slash their budgets.

Performance Information Use by Public Managers

In contrast to elected officials and citizens, who are primarily focused on external accountability, public managers are largely concerned with improving performance. Ultimately, managers are the actors responsible for delivering results in the public sector. Some argue that more than any other actor in the policy process, managers are uniquely well positioned to bring about desirable policy outcomes (Meier 2009a). As such, managerial reactions to performance regimes are perhaps more important than the reactions of any other group. As Moynihan et al (forthcoming, 2) write, "Like the question of whether a tree falling in the forest creates a sound when no one is around, it is reasonable to ask: 'If managers do not use performance data, is there such a thing as performance management?'"

Moynihan (2008) argues that instrumental use of performance information is much more likely to occur within agencies than in inter-institutional settings, for several reasons. First, he notes that bureaucracies, in contrast to most legislative

arrangements, are designed with substantial amounts of hierarchy and clear chains of authority, which dramatically reduces the number of influential decision makers (and thus the level of consensus needed to act). Second, the ideological distance between actors within a single agency is likely to be considerably less than in most legislative venues, reducing the level of disagreement between actors on dimensions regarding the value of various goals and activities and the appropriateness of selected performance measures. Not only are most legislatures bicameral, which introduces the potential for institutional rivalries between the two chambers, but public agencies often have ideologically charged missions, which causes individuals with similar beliefs to self-select into an organization (Clinton and Lewis 2008; Downs 1967; Golden 2000; Wood 1988). Finally, as the agents responsible for policy implementation, Moynihan (2008) argues that public managers have much stronger incentives than politicians (who may be more interested in electoral success than crafting "good policy") to use performance information, provided that they believe doing so will improve program outcomes.

In keeping with this perspective (that performance information is more likely to be used instrumentally within organizations than in external accountability and political control settings), an emerging literature has developed to explore the factors that shape performance information use by public managers. In large part, this literature has tended to focus on three main groups of variables that influence information use: 1) external conditions in the political environment, including governance structures and institutional designs, and 2) internal conditions related to

the organization, including the technical capacity for managers to incorporate performance systems into daily operations, and 3) values, beliefs, and personal characteristics of organizational leaders (Jennings and Haiste 2004; de Lancer Julnes and Holzer 2001; Moynihan and Pandey 2010). For instance, some scholars have found important effects related to commitment and involvement of agency leaders, governors, and legislative actors (Askim, Johnsen, and Christophersen 2008; Behn 2006; Bourdeaux and Chikoto 2008; Dull 2009; Moynihan and Ingraham 2004; Moynihan et al forthcoming), and general levels of support from the political environment along with external stakeholder involvement (Yang and Hsieh 2007). Others find that organizational structures and cultures that reinforce performance routines are critical (Burke and Costello 2005; Franklin 2000; Moynihan and Landuyt 2009; Moynihan and Pandey 2010; Moynihan et al forthcoming). Still others focus on the experience and familiarity that managers have with performance management systems (Melkers and Willoughby 2005), and the capacities that agencies have to implement reform (Berman and Wang 2000).

While the results from this quickly growing body of research are beginning to coalesce around a few key findings regarding performance information use by public managers, many of the studies cited above have presented contradictory results on important variables. This has led many to call for continued study of performance information use, so that we can gain a better sense for causal mechanisms that lead to performance management and how these might differ across policy areas and task settings (Ammons and Rivenbark 2008; Kroll 2012;

de Lancer Julnes 2008; Moynihan and Hawes 2012; Poister, Pasha, and Edwards 2012; Yang and Pandey 2009). As previously discussed, higher education presents an attractive empirical case to study these questions, because there is substantial variation across several variables of theoretical interest, including the external governance, policy and political environment, organizational capacity and mission, and individual level attitudes, experiences, and values.

Second, while scholars have often cited a diversity of goals that organizations use performance management strategies to try and achieve (including evaluation of employees, strategic planning, and engagement with external stakeholders), we know little about how information use differs across these tasks. Given that public universities are confronted with substantial ambiguity in terms of goals and objectives, that they face substantial constraints in terms of resources, and that they must manage relationships with external actors who are often hostile and unsupportive, these organizations are well situated to help provide empirical leverage towards understanding why patterns of use vary from one agency to the next.

Conclusion

The chapters that follow make several important contributions to the literatures discussed throughout this chapter. Chapter three takes up the issue of incentives and administrative responses to performance funding policies by asking whether state governments that have implemented such policies are more likely to allocate appropriations to universities on the basis of actual performance (which I

measure in a variety of ways). This chapter also explores the ways that institutions have reacted to the adoption of these policies by examining patterns in resource allocation to understand whether performance funding policies have resulted in meaningful shifts in the priority that public institutions assign to research and instruction. In doing so, this chapter not only contributes to a well established line of scholarship regarding the efficacy of performance based budget reforms, but also helps understand some of the causal mechanisms upon which performance regimes are based. Further, by exploring administrative reactions to performance policies, this chapter allows for a fuller understanding of the impact that performance funding has on service delivery, and uncovers additional insights about ways in which these policies may be influencing public universities.

Chapter four speaks most clearly to literatures on political control and inter-institutional policymaking dynamics. This chapter uses perceptual data drawn from a survey of university presidents to understand linkages between the external political environment, the adoption of enhanced performance based accountability mechanisms, and perceptions regarding the legitimacy of performance based accountability. Chapter four is thus able to advance theory not as it relates to performance management and performance budgeting, but also with regards to political control and bureaucratic values. In tandem, chapters three and four allow this dissertation to gain remarkable depth on understanding the limitations and impacts of performance regimes with regards to the policymaking process.

Chapter five explores issues related to the role of performance information with regards to internal management. In doing so, this chapter seeks to address two of the biggest questions regarding performance management: 1) Why do organizations use performance information and 2) How does use of performance data vary for tasks related to evaluation, planning, and engagement? Again using a unique survey instrument, this chapter is particularly well positioned to systematically explore patterns of information use. Further, given that data use within organizations has become increasingly common, and has often been identified as a crucial step towards improving public sector performance, this chapter has strong theoretical and practical relevance.

For better or worse, performance management is here to stay. If we want to understand the implications this has for public sector organizations, it is critical that we address serious gaps in our current understanding of the ways that people, in various institutional contexts, use data driven information to pursue their political agenda and to advance agency performance. This dissertation seeks to address many of these questions by tracing the influence of performance management regimes with respect to budgeting, political control and oversight, and day to day management. In doing so, I hope to advance theory in a number of important ways that speak to causal mechanisms and the role of performance information in modern governance.

Chapter III: Exploring Impacts of Performance Funding on State Budgets and Institutional Spending Patterns

Research on the increased use of performance information in the public sector has been a dominant theme in the management literature over the past decade and a half. Proponents argue that performance based accountability structures make it easier for political leaders and the general public to evaluate public agency outputs and to impose sanctions when agencies fail to produce desired results. Critics claim such policies are often short-sighted, blind to the practical realities that many public managers deal with, and are implemented in ways that distort agency missions and result in unintended consequences that negatively impact service delivery. Implicit in this debate is the assumption that performance based mechanisms of accountability will, in some way, reform state budgets and change service delivery.

One area where this discussion has become salient is higher education. In recent years, there have been several initiatives, at both the state and federal levels, to directly link performance to funding (Aldeman and Carey 2009; Burke 2002; Zumeta 2001). While there have been a few attempts to uncover the impacts associated with these higher education performance funding policies (Volkwein and Tandberg 2008), our knowledge about them has thus far largely been based on anecdotal evidence and limited case studies (Banta, Rudolph, Dyke, and Fisher 1996; Doyle and Noland 2006; Sanford and Hunter 2010). As such, there remain serious gaps in our empirical knowledge about the extent to which these policies

are having substantive impacts on budgetary processes at the state level and on service delivery at the organizational level. This paper uses institutional level data from public colleges and universities in all 50 states to determine whether the adoption of performance funding policies corresponds with a better link between student outcomes (graduation rates, retention, and bachelor's degrees produced) and state appropriations, and whether these policies have any noticeable effects on the way that public universities prioritize activities related to research and instruction.

Accountability and the Performance Movement

Critics have long complained that public organizations tend to be inefficient and unresponsive to external stakeholder groups relative to their private counterparts (Chubb and Moe 1990; Osborne and Gaebler 1992; J. Q. Wilson 1989). Many observers blame this apparent dysfunction on the prevalence of incrementalism in the budgetary process, and argue that reform efforts aimed at greater utilization of information regarding organizational performance can make budgets less political and more merit-based, which will in turn boost cost-efficiency gains within the public sector (Moynihan 2008; Radin 2006). By rewarding organizations that perform well and sanctioning those that perform poorly, policymakers can provide strong incentives for public agencies to reduce or eliminate wasteful activities and to employ entrepreneurial strategies in developing new technologies and methods to improve service delivery. Further, by holding public agencies accountable for performance, policymakers are able to get more

"bang for the buck" by spending less money on programs that do not work and more on those that do.

While performance budgeting has become ubiquitous at all levels of government in America over the last fifteen years (Kettl 2000; Melkers and Willoughby 1998; Moynihan 2008), empirical research has generally found only limited evidence that performance information has a meaningful impact on budget decisions, particularly at the state and federal levels of government (Gilmour and Lewis 2006a, 2006b; Joyce 1999; Long and Franklin 2004; Moynihan 2008; Radin 2000). Why have policymakers been so apt to adopt performance mechanisms if they do not use the information that these systems generate? Moynihan (2008) argues that performance policies are often symbolic in nature, and that many times there is little commitment to true reform on the part of political actors.

Even if reform efforts represent a sincere effort to change government, there are several factors that can limit the influence of performance information in the budgetary process. As Moynihan (2008) highlights, performance information is rarely, if ever, used in a completely neutral or rational way. Performance must be given meaning by human decision-makers, which makes it inherently political and subjective. For instance, there is often times significant disagreement within the policy community about the legitimacy of various indicators. This inhibits information use because many actors view the data that performance regimes generate with distrust, and are thus unlikely to engage in meaningful learning (Moynihan 2008; Radin 2006).

Second, as both Gilmour and Lewis (2006b) and Moynihan (2008) point out, it can be unclear whether poor performance should be met with reduced or increased funding. Some observers may interpret poor performance as evidence that an organization needs additional resources in order to accomplish important tasks, and thus push for more funding. For example, many critics of K-12 accountability policies, such as No Child Left Behind (NCLB), contend that these regimes are likely to create negative feedback loops that make it virtually impossible for schools serving vulnerable and at-risk populations to close achievement gaps or improve student outcomes (Neill 2003).

Finally, given the potential for budgetary reforms to create new sets of winners and losers, it is reasonable to expect that affected agencies will seek to influence policy design in a way that protects their interests (Moynihan 2008). As such, organizations with resource advantages, particularly in terms of political influence, are more likely to secure performance regimes that emphasize indicators they will score satisfactorily on, and as a result, performance budgeting would be unlikely to dramatically change the funding landscape.

Regardless of their impact on budgetary actors, performance funding policies ultimately aim to influence public sector service delivery. Proponents argue that public administrators will react to performance based incentives by adopting management strategies that increase efficiency and improve performance. Further, some argue that performance based systems, when properly designed and implemented, have the potential to promote organizational learning by helping

managers to identify problems and to more systematically assess the strengths and weaknesses of programs (Behn 2003; Moynihan 2008).

Critics, however, warn that performance systems, particularly when they are imposed in a top-down manner with little differentiation to account for important variation in terms of task difficulty or resource availability, can lead to perverse incentives that harm client populations (Radin 2006; P. Smith 1990). In some cases, administrators may respond to unrealistic accountability requirements by "gaming the system" to manipulate data such that indicators are no longer valid measures of performance (Booher-Jennings 2005; Figlio and Getzler 2002; Heilig and Darling-Hammond 2008; Jacob and Levitt 2003; Jacob 2005). In other cases, administrators focus more heavily on tasks that boost scores in the short-term, at the expense of developing a long-term strategic plan to improve outcomes (Abernathy 2007). Finally, administrators may react to performance regimes they perceive as illegitimate and unreasonable by adopting a strategy of resistance where they change little, if anything in terms of service delivery, and then attempt to undermine or marginalize the role of performance information in program assessment (Radin 2006). Since many performance reform efforts have historically proven to be short-lived and primarily symbolic in nature, public managers often rightly perceive that they can simply wait things out without exerting much time or energy to re-design program activities.

Performance Funding in Higher Education

Within the area of higher education, performance based accountability has become an area of significant attention in the past decade (Huisman and Currie 2004; King 2007; McLendon, Hearn, and Deaton 2006). In an era that has seen tuition rates skyrocket and increased pressure from the international arena, American universities have struggled to satisfy demands for improved performance. According to the most recent data, the average public college in America graduates less than 60% of its students and graduation rates for many minority groups are much lower than that (Carey 2008). This has caused many to call for major reforms that make institutions of higher learning more accountable for student outcomes (Aldeman and Carey 2009; Casper and Henry 2001; Kelly, Schneider, and Carey 2010; Liefner 2003).

Starting in the late 1990s, Joseph Burke began surveying state higher education officials to better understand the landscape of accountability in higher education (Burke 2002). In doing so, he developed a three-tiered classification of accountability policies. At the lowest level, Burke classified states as having performance reporting policies. These states gather data on student outcomes, but there is no substantial link between school performance and funding decisions. Performance budgeting policies are those where the state collects performance data and the legislature/funding agency considers it when crafting the budget, but where there are no formally specified benchmarks that result in automatic increases/decreases in financial support. The strongest accountability policies,

termed performance funding, are those where some portion (often times a small percentage) of institutional funding is directly linked to the achievement of performance indicators (Burke 2002).

Within this classification, performance funding policies have been the most controversial. Those in favor of performance funding lament the lack of external pressure on institutions to improve student outcomes and have emphasized the importance of using outcome measures to incentivize improved institutional performance (Aldeman and Carey 2009; Burke and Minassians 2003; Kelly, Schneider, and Carey 2010). On the other hand, some have pointed out that performance funding could potentially result in a narrow focus on a small number of indicators, which could cause institutions to dilute the quality of education via grade inflation in order to improve their scores (and thus their budgets) (Hunt 2008; Wellman 2001; Zumeta 2001).

Performance funding policies spread rapidly during the late 1990s and early 2000s, but experienced a lull starting in the mid-2000s. The motivations behind adopting these policies have been traced to several key factors. McLendon, Hearn, and Deaton (2006) find that many of the factors that made NPM reforms successful in other policy areas, and the adoption of accountability mechanisms in K-12 education (particularly with regards to No Child Left Behind) helped contribute to the adoption of performance funding policies in many states.

Despite their popularity during the last decade, performance funding policies have also proven to be somewhat unstable, with several states quickly

abandoning these policies soon after they were adopted (Dougherty, Natow, and Blanca 2012). Many states adopted policies that only tied bonus money directly to performance, and thus fiscal constraints caused by economic recessions eliminated the funding base from which performance money was drawn (Burke and Minassians 2003; Dougherty and Natow 2009). Other causes of declining popularity of performance funding include a lack of support from the higher education community, lackluster involvement of the private sector and business leaders, and political turnover that replaced former champions of performance funding with new leaders that were not interested in maintaining a long-term commitment to these policies (Dougherty and Natow 2009).

During the last two years, however, performance funding has resurged as a prominent reform proposal. In 2009, Complete College America, a non-profit advocacy organization, formed and began to lobby state governments to adopt a series of higher education reforms. These efforts focused on re-organizing governance structures, improving remediation, and increasing the role of performance data in budgeting and strategic planning activities (Complete College America 2010b). As of November, 2010, 24 states have pledged to incorporate core principles from the CCA agenda, which includes a strong push towards performance funding, into their public systems of higher education (Complete College America 2010a).

This paper empirically examines two aspects of the debate about performance funding in higher education that have currently received little attention

in the literature. First, how effective have performance funding policies been at reforming state budgets? Underlying the causal logic behind performance funding is the belief that organizations will respond to changes in the funding environment by adopting new strategies and techniques to improve performance. If this assumption is correct, then performance funding policies must have a meaningful impact on the level of support that institutions receive from state governments, net of other influences (such as the health of the economy or other factors that limit the amount of money that states have to spend on higher education). This paper explores whether the adoption of performance funding strengthens the link between student outcomes and state appropriations, as proponents suggest, or whether these policies have been more symbolic with regards to budgetary impacts.

Second, this paper seeks to understand whether stronger accountability mechanisms influence the way that institutions allocate resources. In recent years, many universities have sought to expand their capacity to conduct research, partly because doing so increases their ability to secure attractive funding, but also because research output is often times associated with higher levels of prestige and reputation (Archibald and Feldman 2008a; Gansemer-Topf and Schuh 2006; Grunig 1997; Robst 2001; Ryan 2004). Those concerned about student outcomes and cost containment, however, argue that overly focusing on research at the expense of instructional activities is problematic because often times these research endeavors do not actively involve or affect undergraduate education (Weisbrod, Ballou, and Asch 2008). Thus, some see research as a distraction that public

institutions, particularly those with low student achievement, should focus on less heavily. If accountability policies are successful in altering the focus of institutions away from certain activities (such as research) and towards others (such as instruction), then we ought to observe differences in university expenditures on these activities when comparing schools in states with funding policies versus those in states without them.

Figure 3.1: Causal Logic of Performance Funding Policies

The causal logic that underlies performance accountability mechanisms (Figure 3.1) implies that incentives will be restructured in a way that results in changes in management that are geared towards improving performance with respect to client outcomes. Unfortunately, much of the research that examines the impacts of these policies, particularly in the area of higher education, skips the intermediate links in the causal chain and focuses exclusively on whether the adoption of performance policies result in improved student success. As a result, we have some limited information about whether accountability policies were successful in bringing about improved performance (Volkwein and Tandberg 2008), but we have very limited systematic analysis that can tell us why (or why not). If we are to understand anything about why these policies work or do not work, we must begin by understanding whether they are successful in changing the incentive structures that public managers face. If they are unsuccessful in doing so,

then the causal logic of performance management breaks down, and the desired impacts are unlikely to be realized.

Data

The empirical component of this paper proceeds in two stages. In stage one I examine the link between performance information and the amount of money that public universities receive from state governments. In stage two I explore the impact of performance funding policies on institutional behavior. In both stages, I rely on data that is publicly reported in the Integrated Postsecondary Education Data System (IPEDS) for institutional indicators.

State Policies for Performance Funding

In keeping with Burke's framework, I define states as having adopted a performance funding policy if they directly and formulaically tie state appropriations to institutional performance with respect to student outcomes. In order to identify which states have adopted performance funding policies (and when these policies were adopted), I consulted a variety of sources, including reports by academics and policy think tanks (Burke and Serban 1998; Aldeman and Carey 2009; Dougherty et al. 2010) and source documents from state governments. Because I am interested in the effect that these policies have on appropriations, I code policies as starting when they are first funded, rather than when the legislature, governor, or coordinating board adopted a plan to implement performance funding at some point in the future. In a few instances there were conflicts between some of my sources regarding the content and adoption dates for

Table 3.1: Summary of Performance Funding Policies		
State	**Years Policy In Effect**	**Performance Indicators**
Arkansas	1994-1996 (First funded in 1995)	Graduation rates, retention, minority graduation rates, minority retention, licensure pass rates, exit exams, administrative costs, faculty teaching load, student body diversity, faculty diversity, alumni and employer surveys
Arkansas	2008-Present	Number credit hours enrolled at the beginning of the term, number of course completions
Colorado	1993-Present (First funded in 1994)	Graduation rates, retention, minority student success, pass rates of graduates on technical exams, institutional support/ administrative expenditures per full-time student, class size, number of credits required for degree, faculty instructional workload, and two institution specific measures
Indiana	2007-Present	Graduation rates, bachelor's degrees produced, degree completion for low-income students, research productivity
Kansas	1999-Present	Indicators are specific to each institution (and are largely selected by the institutions), includes things such as graduation rates, retention, student body diversity, graduates' scores on learning assessment exams, minority student outcomes, participation in study abroad programs, faculty credentials, and external research grants.
Kentucky	1996-1997	Graduation rates, retention
Kentucky	2007 (Suspended after 1 year due to budget cuts)	Degree production per FTE, minority student degree production, one indicator of choice (includes graduation rates, student learning assessments, transfer credits, and other indicators)
Louisiana	2008-Present	Number of degree completers, minority student degree completers, number of completers in STEM fields
Minnesota	1995-1997 (First funded in 1996)	Graduation rates, retention, ranking of incoming freshmen, minority student enrollment

Missouri	1991-2002 (First funded in 1993)	Graduation rates, bachelor's degrees produced, bachelor's degrees produced for minority students, scores of graduates on national exams
New Jersey	1999-2002	Graduation rates, cost efficiency, and diversification of revenues.
New Mexico	2005-Present (First funded in 2007)	Graduation rates, retention, and research productivity (for research universities only)
Ohio	1998-Present	Primarily focused on external research grants awarded and tuition, but also contains indicators for time to degree, and degree completion among at-risk students
Oklahoma	1997-Present (Suspended in 2001)	Graduation rates and retention
Pennsylvania (PASSHE only)	2000-Present	Indicators broken into 4 categories: 1) Student Achievement and Success, 2) University and System Excellence, 3) Commonwealth Service, 4) Resource Development and stewardship. Indicators include graduation rates, retention, bachelor's degrees awarded, faculty diversity, faculty productivity, student to faculty ratio, and cost per FTE student
South Carolina	1996-2004	Total of 37 indicators, broken into nine categories: 1) Graduate's achievements, 2) Quality of faculty, 3) Instructional quality, 4) Institutional cooperation and collaboration, 5) Administrative efficiency, 6) Entrance requirements, 7) Mission focus, 8) User friendliness, and 9) Research funding. Indicators include graduation rates, faculty teaching and research credentials, student to teacher ratios, administrative cost efficiency, SAT/ACT scores of entering freshmen, and external research grants awarded
Tennessee	1979-Present	Several indicators separated into 4 major categories 1) Student learning and access, 2) Student, alumni and employer surveys, 3) Achievement of state master plan priorities, and 4) assessment outcomes. Indicators and benchmarks are updated and revised on 5 year cycles.

		Graduation rates, retention, minority student enrollment, and scores on learning assessment tests are generally among the major indicators.
Texas	1999-2003	Number of students defined as unprepared for college who successfully complete remedial coursework
Virginia	2005-Present	Retention, access for underprivileged populations, tuition, external research grants, contribution to economic development
Washington	1997-1998	Graduation rates, retention, undergraduate efficiency (ratio of credits taken to credits needed to graduate), faculty productivity, plus one unique indicator for each university

performance funding policies; in these cases I contacted staff members from the state agency responsible for higher education policy to inform coding decisions. Information about the adoption dates and content of these policies is listed in table one.

Although the content of performance funding policies varies significantly across the states, there are also a number of notable trends. The most common indicator that states use in measuring performance is graduation rates (15 of 20 policies), followed by retention (9), student outcomes for minority or low-income students (6), number of degrees produced (5), various measures of cost-efficiency (5), research productivity and external funding for research (5), student or faculty diversity (4), and student pass rates on exit exams, licensure tests, or national learning assessment exams (4). These findings are generally consistent with earlier studies of performance funding indicators (Burke 2001).

Stage One – Does Performance Funding Make Appropriations More Outcomes Oriented?

In stage one, the amount of money that a university received in state appropriations, measured in constant dollars, is the dependent variable. Traditionally, higher education has been financed primarily in terms of inputs, such as the number of students enrolled or the number of credit hours that students take, so I include several independent variables that measure inputs in my stage one model. First, I include measures for the number of undergraduate and graduate students enrolled at the university, with the expectation that each will be positively related to state appropriations. I also include several indicators for at-risk or vulnerable student populations, such as traditionally under-represented racial minorities or students from low income socio-economic backgrounds. These include percent of students who are Black, percent of students who are Hispanic, and the percent of students who receive federal grant aid, which I employ as a measure for low income. In addition to these input measures, I also include a number of variables that focus on research productivity (measured by the amount of money that the institution received in grants and contracts), selectivity (as measured by Barron's selector rating[1]), and statewide support of higher education (total state spending on higher education per full-time equivalent student). Aside from selectivity, all of these measures, in addition to the dependent variable are reported by the IPEDS, and I have valid data for years spanning from 1998 to 2009.

[1] Barron's selector rating is based on a combination of SAT/ACT scores and the percent of applicants who are accepted. It ranges from Non-Competitive to Most Competitive.

Because I am interested in the impact that these measures have on state budgets, and because there is often a delay between when this information is collected versus when it is reported publicly, I have lagged all of the independent variables by one year (and my dataset thus spans the 1999-2009 time period). Descriptive statistics for stage 1 are listed in table 3.2

Table 3.2: Summary Statistics (Stage One)

	Mean	Std.	Min	Max
State Appropriations (in $ Millions)	101.8	114.5	3.11	696.0
State Higher Ed. Spending Per FTE (const. $1000s)	6.83	1.44	2.95	13.7
Non-Competitive (Barron's)	0.091	0.29	0	1
Less Competitive (Barron's)	0.17	0.38	0	1
Competitive (Barron's)	0.48	0.50	0	1
Very Competitive (Barron's)	0.19	0.39	0	1
Highly Competitive (Barron's)	0.06	0.24	0	1
Most Competitive (Barron's)	0.012	0.11	0	1
Gifts, Grants, and Contr. Per Enroll. (const. $1000s)	6.77	8.01	0.59	71.5
Undergraduate Enrollment (1000s)	11.2	7.87	0.77	53.3
Graduate Enrollment (1000s)	2.60	2.64	0	15.0
Percent Receiving Federal Aid	31.1	14.8	2	90
Percent Black Students	12.7	19.3	0.14	97.8
Percent Hispanic Students	6.25	10.6	0	88.5
Graduation Rates (Latest available info)	46.9	16.0	2.53	100
Retention Rate	74.3	10.2	16	97
Bachelor's Degrees Produced Per Enrollment	0.17	0.043	0.023	0.30
Performance Funding	0.21	0.41	0	1

I also employ several variables that measure university performance with respect to student outcomes. First, I include the six-year (150% of normal time) graduation rate. This variable is constructed by taking the revised cohort (removing students who die, are deployed for military service, are part-time, etc.) and counting the number of students who earned a degree within six years of entering college. For example, graduation rates for 2009 indicate the percentage of

students who entered as first-time full-time freshmen in the fall of 2003 that had earned a degree by the fall of 2009. Though not a perfect measure of performance, graduation rates have become an increasingly popular indicator amongst those who advocate the need for performance funding, and is the metric most often used in these accountability policies. I have valid data for this measure for the 1991-2003 cohorts. As with the other independent variables, I have lagged this measure one year from when the cohort graduated (or 7 years from when students enrolled as freshmen).

In addition to graduation rates, I also include measures for one-year student retention (the percentage of students who return for their sophomore year) and bachelor's degrees awarded per enrollment, as these are other popular indicators that states employ to track student outcomes. As was the case with graduation rates, these variables are lagged one year. Because these three variables are strongly correlated with one another, and because the years for which I have valid data for each of them differ (IPEDS did not begin collecting retention rates until 2003), I run separate models for each, in addition to a combined model with all of them included.

Finally, while I include a measure for whether or not a state had a performance funding policy, this variable is, taken on its own, relatively meaningless given the other independent variables that are included in the model. Instead, I am primarily interested in interaction terms for this variable and various measures of performance. If performance funding policies are effective at causing

university appropriations to be based more on student outcomes and less on inputs, then the coefficient for the interaction between performance funding and the outcome variables (graduation rates, retention, and degree production) will be positive and statistically significant, while the interactions of performance funding and the two enrollment indicators will be negative and statistically significant. Further, while most performance funding policies are primarily driven by a concern about student outcomes, some states have also used measures of student diversity, selectivity, and research productivity as dimensions of performance that institutions are rewarded for improving, so I also include interactions for performance funding with these variables.

My dataset includes all public four-year degree-granting institutions with a Carnegie classification of bachelor's or higher (excluding military academies and universities located in Washington D.C.), with data from multiple years for each university. When dealing with data that have both cross-sectional and time-series components such as these, one must be careful to address potential problems with serial auto-correlation and heteroskedasticity between panels (Greene 2003; Wooldridge 2002). Thus, in both stages, I follow the advice of Beck and Katz (1995) and employ panel corrected standard errors (PCSEs) with panel-specific corrections for AR1 autocorrelation.

The stage one model can be written as:

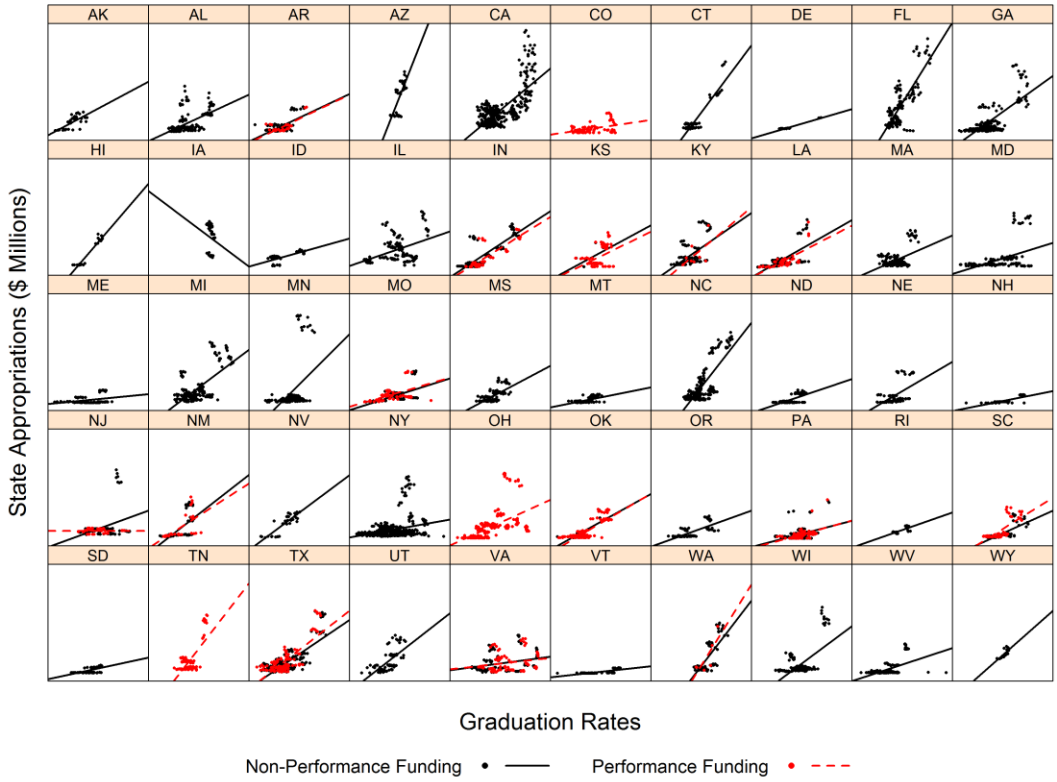
$$Y_{it} = \alpha + \beta StateSpending_{it} + \beta Selectivity_{it-1} + \beta Research_{it-1} + \beta Undergrad_{it-1} + \beta Graduate_{it-1} + \beta PercBlack_{it-1} + \beta PercHispanic_{it-1} + \beta PercAid_{it-1} + \beta GradRate_{it-7} + \beta Retention_{it-1} + \beta Degrees_{it-1} + \beta PFunding_{it} + \beta PFunding*Performance_{it-1} + \epsilon_{it}$$

where Y_{it} is the amount of funding that an institution received in appropriations at time t, α is the constant, $StateSpending_{st}$ is the amount of money that a state appropriated for higher education in year t, $Selectivity_{it-1}$ is a set of variables to reflect institutional competitiveness, and PFunding*Performance represents a vector for the interaction terms for performance funding and each dimension of performance, and ϵ_{it} is the error term.

Stage One – Findings

Figure 3.2 provides an exploratory look at the variation that exists amongst the states when it comes to the relationship between funding and performance. Each dot represents an individual institution within a given state, and the lines show bi-variate regression slopes of graduation rates on state appropriations. Observations in years where states have adopted performance funding are grey, while those in years without performance funding are black, Although one should be cautious about drawing overly strong conclusions from this display alone, particularly given the lack of controls for confounding variables, there does not seem to be a very strong pattern in terms of performance funding states having markedly closer connections between student outcomes (at least in terms of graduation rates) and appropriations. Further, in many cases where states had a policy for some of the years but not all of them, there appears to be almost no difference in the strength of the relationship between performance and

Figure 3.2: Exploring the Relationship Between Performance and Funding by State



institutional funding. With this in mind, I now turn to more sophisticated multivariate analysis of my stage one model in order to better understand the factors that shape state appropriations.

Results for stage one are listed in table 3.3, and there are several important findings. As stated earlier, I ran four models in total (one for each student outcome variable separately, and one combined model with all of the outcome variables). In terms of the non-student outcomes related variables, the findings are generally

Table 3.3: Stage One Results (DV = State Appropriations (in constant $ Millions)

	(1)	(2)	(3)	(4)
State Higher Ed. Spending Per FTE (constant $1000s)	9.159***	10.479***	9.264***	10.179***
	(0.44)	(0.69)	(0.45)	(0.60)
Undergraduate Enrollment (1000s)	7.382***	7.315***	7.519***	7.004***
	(0.34)	(0.38)	(0.36)	(0.37)
Graduate Enrollment (1000s)	8.666***	7.542***	8.601***	7.703***
	(0.96)	(1.12)	(1.02)	(1.05)
Less Competitive (Barron's)	1.526	5.285**	1.611	1.970
	(1.60)	(2.01)	(1.55)	(2.04)
Competitive (Barron's)	-3.821*	-2.119	-2.472	-5.253*
	(1.69)	(2.15)	(1.58)	(2.32)
Very Competitive (Barron's)	6.069*	6.715*	7.421**	2.247
	(2.67)	(3.28)	(2.45)	(3.36)
Highly Competitive (Barron's)	13.632**	7.898	15.309***	2.704
	(4.93)	(6.28)	(4.63)	(6.15)
Most Competitive (Barron's)	54.003**	79.143***	59.715***	70.847***
	(18.67)	(19.37)	(17.65)	(19.55)
Gifts, Grants, and Contracts Per Enrollment (constant $1000s)	4.721***	5.072***	4.781***	4.918***
	(0.28)	(0.34)	(0.26)	(0.34)
% Students Receiving Federal Aid	0.090*	0.110*	0.084*	0.198***
	(0.04)	(0.05)	(0.04)	(0.05)
% Black Students	-0.121***	-0.132***	-0.104***	-0.098**
	(0.03)	(0.04)	(0.03)	(0.03)
% Hispanic Students	-0.583***	-0.721***	-0.667***	-0.695***
	(0.06)	(0.07)	(0.06)	(0.07)
Grad. Rates (Latest available info)	0.365***			0.257***
	(0.06)			(0.07)
Retention Rate		0.229**		-0.037
		(0.07)		(0.06)
Bachelor's Degrees Produced Per Enrollment			131.567***	125.882***
			(18.36)	(17.63)
Performance Funding	8.574+	8.107	9.984+	8.176
	(4.49)	(10.59)	(5.96)	(9.95)
Performance Funding * Und. Enroll	1.322***	1.183*	1.331***	0.971+
	(0.38)	(0.50)	(0.39)	(0.50)
Performance Funding * Grad. Enroll	-2.506+	-2.093	-2.497+	-1.790
	(1.28)	(1.86)	(1.34)	(1.89)
Performance Funding * Gifts, Grants, & Contracts	-1.115*	-1.372+	-1.235**	-1.195
	(0.48)	(0.70)	(0.46)	(0.73)
Performance Funding * Less Competitive	1.918	3.798	1.646	2.335
	(2.56)	(2.98)	(2.51)	(3.02)
Performance Funding * Competitive	7.332**	10.393**	5.344+	9.139**
	(2.82)	(3.28)	(2.78)	(3.45)
Performance Funding * Very Competitive	4.274	3.034	1.538	5.447
	(4.39)	(4.81)	(4.37)	(4.86)

Performance Funding * Highly Competitive	-5.417	-8.895	-8.905	-0.061
	(7.69)	(10.89)	(7.72)	(10.27)
Performance Funding * Most Competitive	-22.411	-71.766*	-20.922	-75.237*
	(27.99)	(32.13)	(25.72)	(33.36)
Performance Funding * % Rec. Fed Aid	-0.134*	-0.096	-0.128*	-0.185*
	(0.05)	(0.08)	(0.05)	(0.08)
Performance Funding * % Black	0.172***	0.088	0.177***	0.092
	(0.05)	(0.06)	(0.05)	(0.07)
Performance Funding * % Hispanic	0.226***	0.248**	0.293***	0.291***
	(0.06)	(0.08)	(0.06)	(0.08)
Performance Funding * Grad. Rate	-0.307***			-0.211+
	(0.08)			(0.12)
Performance Funding * Retention Rate		-0.186		0.046
		(0.16)		(0.14)
Performance Funding * Deg. Per Enr.			-85.386**	-31.335
			(32.02)	(43.35)
Constant	-106.12***	-119.73***	-114.52***	-126.26***
	(4.93)	(6.75)	(5.53)	(6.88)
# of Observations	3327	2280	3386	2273
# of Universities	423	398	425	397
Years Covered	1999-2009	2003-2009	1999-2009	2003-2009
Wald χ^2	4168.83***	4791.36***	4085.96***	5641.07***
R^2	0.878	0.926	0.883	0.935

Panel corrected standard errors in parentheses
+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

consistent across all four models, however because these models incorporate different time spans, and because some of the student outcome variables are highly correlated with each other, some of the effects in the first three models are no longer statistically significant in model four.

First, In terms of performance information, there is a positive and statistically significant relationship between the latest information on each measure of student outcomes and state appropriations (though for retention this effect does not persist in the combined model). Note that because of the interaction terms, these values represent the relationship between various metrics of performance and appropriations in states that *do not* have performance funding policies. Given the

extent to which proponents of performance funding bemoan the lack of incentives for improving student outcomes, this point is quite meaningful for substantive debates regarding the need for dramatic reforms in funding mechanisms for public universities. *Even in states without performance funding, there is a positive and statistically significant relationship between performance information regarding student outcomes and institutional funding.*

Second, as expected, highly productive research universities and selective institutions receive considerably more in state appropriations than their peers. With regard to enrollments, both undergraduate and graduate enrollments are positively related to the amount of money that institutions receive from state governments. For undergraduate enrollments, the effect ranges from $7.0 million to $7.5 million per each additional 1,000 students, while a similar increase in the number of graduate students yields an expected increase of $7.7 million to $8.7 million. With respect to disadvantaged student populations, the relationships between both the percent of students who are Black and the percent of students who are Hispanic and state appropriations are negative and statistically significant in all four models. Every 1% increase in Black students is associated with $98,000 to $132,000 less in state appropriations, while a similar increase in the percentage of Hispanic students yields an expected $583,000 to $721,000 drop in state support. For percent of students receiving financial aid, however, the coefficient is positive and statistically significant in all four models.

Turning now to the interaction terms, there are some conflicting results. The interaction for performance undergraduate enrollment is positive and significant in all four models, while the term for performance funding and graduate enrollment is negative statistically significant in two of the models (models 1 and 3). As expected, this implies that states with performance funding actually place greater emphasis on undergraduate enrollments than non-performance states when allocating resources to public universities. Similarly, the interaction terms for percent Black and percent Hispanic are also positive and generally significant, which implies that performance funding states are indeed providing some rewards to institutions that increase student diversity.

With respect to other metrics of performance, however, my findings suggest that performance funding policies have generally been ineffective. First, note that the interaction for performance funding and research revenues are negative and statistically significant in three of the four models, indicating that many of the states with these policies are less likely to reward highly productive research institutions than their peers. With regards to performance funding and institutional selectivity, there is a positive interaction for schools that are classified as competitive (the midpoint on Barron's selectivity scale), the effect is reversed with those that are most selective. Finally, the interaction terms for graduation rates, retention, and degree production and performance funding are all either insignificant or significant and negative, which suggests that, contrary to what

proponents argue, states with performance funding actually have a somewhat weaker link between student outcomes and institutional funding.

The negative and statistically significant coefficients for the interactions between performance funding and graduation rates bachelor's degree production is particularly surprising given the amount of attention that these policies have received from those who favor outcome-based accountability. One possible explanation for this unexpected result is that states adopt these policies when they perceive that public revenues are not being utilized appropriately, but that the policies themselves are ineffective in terms of dramatically changing the budget process.

Another possibility is that less formal mechanisms may be more powerful in shaping state budgets. A closer examination of the relationship between state legislators, particularly those who sit on committees responsible for allocating resources to higher education, and university campuses may be a useful starting place to gain leverage on this topic. For example, McLendon, Hearn, and Mokher (2009) find a positive link between appropriations to research universities within a state and the number of alumni from these institutions that are members of the state legislature. They argue that legislators tend to "privilege" institutions that they have close ties to, and it may be the case that performance funding policies are simply unable to overcome these political biases. Regardless of the reasons for their ineffectiveness, it appears that performance funding policies have not been successful in transforming state budgets when it comes to higher education.

Stage Two – Do Performance Funding Policies Influence University Priorities?

In stage two, I move from considering the impacts of performance funding on state policymakers to understanding how they influence individual institutions. To do so, I rely on a set of measures that indicate the percentage of education related expenditures[2] that are allocated to research and instruction. As previously discussed, some observers have argued that research and undergraduate instruction are competing tasks, and many worry that heightened emphasis on research will have negative impacts for student outcomes. Given the fact that student outcomes (graduation rates in particular) play a central role in virtually every performance funding scheme, one might expect that universities located in performance funding states will spend less on research and more on instruction than they otherwise would. On the other hand, despite much of the strong rhetoric that has often pitted research against instruction, some performance funding states actually adopted policies that encourage research productivity in addition to undergraduate education (though the findings from stage one indicate that they have not effectively done so). This would suggest that performance funding policies might lead institutions to shift more resources to research. Finally, given the multitude of other factors that influence institutional budgets, it may be the case that performance funding policies have little to no effect on institutional spending in either direction. Descriptive statistics for stage two are listed in table four.

[2] Total education related expenditures include money allocated to the following activities: Instruction, Research, Academic Support, Student Services, Public service, Institutional Support, and Expenditures for Scholarships and Grants.

I use several independent variables to predict the amount of money that institutions spend on research and instruction. First, I include measures for both total enrollment and the percentage of students who are enrolled as undergraduates. Because graduate education is often geared towards the production of research, with many students working as research assistants, while undergraduate education is primarily focused on teaching and instruction, I expect that universities with a larger percentage of undergraduate students will expend more money on instruction, and less on research.

Table 3.4: Summary Statistics (Stage Two)

	Mean	Std.	Min	Max
% Expenditures on Research	7.44	10.34	0	74.48
% Expenditures on Instruction	45.11	8.09	1.55	93.87
Non-Competitive (Barron's)	0.11	0.31	0	1
Less Competitive (Barron's)	0.21	0.40	0	1
Competitive (Barron's)	0.46	0.50	0	1
Very Competitive (Barron's)	0.15	0.35	0	1
Highly Competitive (Barron's)	0.05	0.21	0	1
Most Competitive (Barron's)	0.01	0.09	0	1
Bachelor's (Carnegie)	0.23	0.42	0	1
Master's (Carnegie)	0.47	0.50	0	1
Research (Carnegie)	0.30	0.46	0	1
Total Enrollment (1000s)	11	9.80	0.18	68.06
% Undergraduate	85.19	11.27	0.07	100
% of Students Receiving Federal Aid	33.94	16.33	0	100
% of Students who are Part-Time	24	15.72	0.13	96.80
% Full-Time Faculty	65.45	18.24	0.66	100
Performance Funding	0.15	0.36	0	1

I also include a set of measures for institutional selectivity (the same Barron's selectivity measure that was employed in stage one) and mission (as measured by Carnegie classification), with the expectation that more selective institutions and those that are classified as research universities will spend a larger

percentage of their resources on research activities, while teaching institutions (those classified as either Bachelor's degree granting or Master's degree granting) will spend more on instruction. Further, I include measures for the percentage of students who are part-time and the percentage who receive federal aid. Because these students are generally the most vulnerable, in terms of their risk to drop out of school before they complete a degree, I expect that these variables will be positively related to institutional expenditures on instruction. Finally, in addition to student demographics, I also include a measure for the percentage of faculty who are full-time employees with 9/10 month equated contracts, with the expectation that a higher percentage of faculty members who are full-time will be positively related to research and negatively related to instruction.

As was the case with stage one, I use panel corrected standard errors with panel specific AR1 terms to correct for autocorrelation within panels and heteroskedasticity between panels. My stage two models can be written as:

$$Y_{it} = \alpha + \beta Selectivity_{it} + \beta Mission_{it} + \beta Enrollment_{it} + \beta PercUndergrad_{it} + \beta PercAid_{it} + \beta PercPartTStudents_{it} + \beta PercFullTFac_{it} + \beta PFunding_{it} + \epsilon_{it}$$

where Y_{it} is the percent of expenditures on instruction or research for an institution at time t, α is the constant term, $Selectivity_{it}$ is a set of variables to reflect institutional competitiveness, $Mission_{it}$ is a vector of variables to reflect Carnegie classification, $PFunding_{it}$ represents a dichotomous variable for whether an institution was subject to a performance funding policy at time t, and ϵ_{it} is the error term.

Stage Two – Findings

Results for stage two are listed in Table 3.5. Turning first to the percentage of expenditures on research, there are a number of interesting findings. As expected, total enrollment is positively related to the research expenditures, and every 10,000 student increase in total enrollment is associated with a 0.89 percentage point increase in expenditures on research. Similarly, institutions that are classified as highly or most competitive spend 1.90 and 1.71 percentage points more on research than their non-competitive peers, while Research and Doctoral degree granting universities spend 14.78 percentage points more than those classified as baccalaureate colleges. Conversely, the percentage of students who are undergraduates is negatively related to research spending, and every 10 percentage point increase in undergraduate students yields a 0.77 percentage point decrease in research expenditures. A similar increase in the percentage of students who are part-time is associated with a 0.61 percentage point decrease. With regard to the variable of interest, performance funding is negatively related to research expenditures, and institutions located in states with performance funding policies spend 0.34 percentage points less of their educational expenditures on research than they would, all else equal, in non-performance funding states.

In terms of instructional expenditures, similar patterns emerge. Somewhat surprisingly, competitive and very competitive institutions spend more on instruction than do those on either end of the selectivity scale. Research and Doctoral degree granting universities spend 4.13 percentage points less on

Table 3.5: Stage Two Results

	% Expend. on Research	% Expend. on Instruct.
Less Competitive (Barron's)	-0.178	0.429
	(0.17)	(0.29)
Competitive (Barron's)	-0.158	0.688*
	(0.17)	(0.27)
Very Competitive (Barron's)	0.283	1.040**
	(0.25)	(0.33)
Highly Competitive (Barron's)	1.904***	0.364
	(0.40)	(0.58)
Most Competitive (Barron's)	1.710**	0.097
	(0.61)	(0.73)
Master's (Carnegie)	-1.426***	2.183***
	(0.36)	(0.47)
Research (Carnegie)	14.779***	-4.134***
	(0.62)	(0.80)
Total Enrollment (1000s)	0.089***	-0.028
	(0.02)	(0.03)
% Undergraduate	-0.077***	-0.011
	(0.01)	(0.02)
% of Students Receiving Federal Aid	0.003	-0.041***
	(0.00)	(0.01)
% of Students who are Part-Time	-0.061***	0.007
	(0.01)	(0.01)
% Full-Time Faculty	-0.006	-0.012+
	(0.00)	(0.01)
Performance Funding	-0.342**	0.890***
	(0.12)	(0.21)
Constant	11.062***	47.393***
	(1.47)	(2.07)
# of Observations	5490	5490
# of Universities	490	490
Years Covered	1998-2009	1998-2009
Wald χ^2	6673.57***	688.64***
R^2	0.786	0.943

Panel corrected standard errors in parentheses
+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

instruction than do other schools, while institutions classified as Master's degree granting spend 2.18 percentage points more on instruction than do Bachelor's degree only granting schools. Similarly, as the percentage of faculty who are full-time and the percentage of students who receive federal financial aid increase,

expenditures on instruction decrease. Finally, performance funding is positively related to the proportion of expenditures that are allocated to instruction, with institutions in performance funding states spending about 0.89 percentage points more on instruction than those in non-performance states, all else equal.

While performance funding policies appear to work in the desired direction for both expenditures and instruction, the effects are minimal. In both instances, the differences between institutions with performance funding versus those without is less than 1 percentage point. Given the previously discussed findings that indicate little effect of accountability policies on state budgets (and thus institutional incentives), it is perhaps unsurprising that we observe such minimal effects when examining institutional priorities. As state governments are increasingly incapable of subsidizing higher education in the same capacity as has traditionally been the case (Mumper 2003; Weerts and Ronca 2006), public universities have come to rely more and more on private sources of revenue (including competition for research funding). Nevertheless, given that current performance funding efforts have largely been ineffective at reshaping state budgets, the fact that these policies have had even minimal impacts on institutional spending is a notable and somewhat surprising finding. These results leave open the potential for these policies to have considerable effects on administrative behavior if policymakers could more effectively tie larger incentives to institutional performance.

One important question that remains about the influence of performance funding policies on institutional behavior is whether or not there are differential impacts. Given that large research universities are often times considerably more visible than non-research universities, one might speculate that performance funding policies would have a greater impact on their priorities. On the other hand, these institutions have greater access to outside revenues, and are often times portrayed as less reliant on state funding than other institutions in their state (Ehrenberg 2006). Thus performance funding policies on spending priorities could also conceivably less influential for research universities than other institutions.

In order to test whether the influence of performance funding was different based on institutional mission, I re-ran the analysis from stage two separately for research institutions versus non-research institutions (tables 3.6 and 3.7). In both cases, it appears that the effect of performance funding policies is greater for research universities than it is for non-research universities. In the case of expenditures on research, performance funding policies have a negative and statistically significant influence on institutional spending, but they are not significant in the model for non-research universities. For instruction, performance funding policies are positive and statistically significant in both cases, but the magnitude of the effect for research universities is more than double that for non-research institutions (1.34 versus 0.59). While performance funding policies are generally aimed at all public institutions in a state, it appears that they may be more influential on research universities.

Table 3.6: Differential Impacts of Performance Funding on Percent of Expenditures on Instruction: Research versus Non-Research Universities

	Non-Research Universities	Research Universities
Less Competitive (Barron's)	0.702*	-0.715+
	(0.36)	(0.43)
Competitive (Barron's)	0.848*	-0.093
	(0.34)	(0.38)
Very Competitive (Barron's)	1.949***	-0.179
	(0.43)	(0.45)
Highly Competitive (Barron's)	2.182**	-1.043
	(0.82)	(0.74)
Most Competitive (Barron's)	1.750	-1.308
	(1.72)	(0.84)
Total Enrollment (1000s)	0.200***	-0.154**
	(0.03)	(0.05)
% Undergraduate	0.003	-0.080+
	(0.02)	(0.04)
% of Students Rec. Federal Aid	-0.053***	-0.002
	(0.01)	(0.01)
% of Students who are Part-Time	-0.021+	0.020
	(0.01)	(0.03)
% Full-Time Faculty	0.002	-0.017
	(0.01)	(0.01)
Performance Funding	0.586*	1.343***
	(0.24)	(0.33)
Constant	45.928***	51.694***
	(1.71)	(4.66)
# of Observations	3599	1891
# of Universities	327	163
Years Covered	1998-2009	1998-2009
Wald χ^2	227.75***	99.35***
R^2	0.946	0.931

Panel corrected standard errors in parentheses
+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Conclusion and Discussion

Overall, the results from both stage one and stage two failed to find any substantial evidence that performance funding policies have had significant impacts on state budgets or institutional priorities. One interesting finding that has implications for both the performance management literature and the broader

literature on performance and public organizations is that the link between performance information and funding may already be more substantial than many observers are currently aware. Performance funding policies are largely based on the premise that university administrators do not currently place enough emphasis on student outcomes, because they have few incentives to do so. This analysis finds that institutions *do* face meaningful financial incentives for improving performance, and that performance funding policies have done little (if anything) to make these incentives any more powerful than they already are.

Moreover, Zhang (2009) found that state appropriations have a positive impact on institutional graduation rates, so it may be the case that most institutions are already highly concerned with student outcomes and that they simply need more resources from state governments in order to produce results. If this is the case, then a shift towards funding policies that effectively punish those institutions that are underperforming may actually work to undercut progress towards improving student outcomes and alleviating achievement gaps. Rather than responding with desired shifts in administrative priorities (i.e. smaller class sizes and more full-time faculty who are heavily involved in undergraduate education), institutions may instead react to these policies by simply raising admissions criteria and reducing access for at-risk students (Fryar 2011).

Second, while performance funding policies do not appear to have dramatically altered institutional spending priorities, it is interesting to note that they had some minimal influence. If these policies do not effectively restructure

financial incentives (as the findings from stage one indicate), why do institutions respond to them at all? One explanation may be that university administrators perceive that accountability policies will potentially have a major impact on their institutions at some point in the near future, even if they are not very effective right now. Given the highly charged political rhetoric that has surrounded these policies, universities may feel that they need to at least give an appearance of doing something proactive, lest their political principals get even more upset and adopt an aggressive accountability policy in the years ahead. This may also help explain the differential impacts of performance funding across institutional types. Research universities are often the most visible institutions in the state, and thus they may feel greater pressure from state policymakers to demonstrate a renewed commitment to undergraduate education. Additionally, the fact that these policies have indeed impacted institutional priorities despite their limited scope suggests that future performance funding efforts might have substantial effects on administrative behavior if policymakers are able to connect more meaningful incentives to various metrics of performance.

Finally, there are considerable variations in the nature and content of the performance funding policies that states have adopted. For example, some states such as Tennessee and Pennsylvania have developed performance funding structures that have been lauded as encouraging excellence while maintaining differentiation between institutions with varied missions and student populations. By comparison, other states, like South Carolina have been criticized for adopting

benchmarks that are so easily attainable as to pose no real threat to university budgets (Aldeman and Carey 2009; Zumeta 2001). Understanding the ways in which these differences matter is beyond the scope of the current paper, but remains a task that warrants considerable attention in the future. As we move forward, these differences in policy design are likely to play a central role in the debate regarding accountability reform and performance funding.

Performance based accountability is predicated on a causal logic that requires administrators and institutions to alter behavior and activities in ways that improve student outcomes. While there has been considerable attention paid to the potential implications of these policies, and to the ways in which they represent a shift in oversight relationships between higher education and state governments, there has been little empirical work to investigate the impacts that these policies have on either management or student outcomes. This paper marks an initial step towards building a better understanding of the ways that these policies impact management and institutions. The findings, which suggest that performance funding policies have generally been ineffective in their attempts to influence either state budget arrangements or institutional spending preferences, highlight the need to better understand the mechanisms by which accountability operates.

Ultimately, the goal behind performance initiatives is to improve the educational experience for students so that they emerge from college with a degree that adequately prepares them for the challenges of the modern economy. With this in mind, it is vitally important that policymakers pay more attention to the causal

linkages between policy design and administrative responses as they seek to devise improved accountability structures, and that scholars invest greater resources to empirically investigate these connections as they seek to understand governance and organizational performance.

Chapter IV –Perceptions about the Appropriateness of Performance-Based Funding

Much of the causal logic behind performance based accountability has rested on the assumption that agency leaders are largely self-interested actors who often pursue goals that are at odds with the preferences of elected officials (Thomas 2001). As the previous chapter illustrated, however, this adversarial framework is not always appropriate. In the case of performance funding in higher education, public universities are responsive to accountability initiatives, not because they receive substantial financial incentives for doing so, but rather because they perceive them as symbolically meaningful statements regarding the values of electoral institutions and perhaps even citizens themselves. This important finding suggests that future attempts at implementing performance oriented accountability mechanisms will largely hinge on the extent to which agency leaders see these efforts as legitimate and appropriate (Dull 2009; Franklin 2000; Meier and O'Toole 2006; Moynihan 2008). And yet, we know very little about the factors that influence such beliefs.

Why do some agency leaders and public managers see accountability efforts as appropriate and legitimate, while others ardently oppose performance oriented reforms? The present study seeks to address this question directly. To do so, I utilize data collected from a survey of presidents at public colleges and universities in the United States to better understand perceptions about the appropriateness of recent reform efforts to make organizational funding dependent on performance.

Performance Management as a Tool for External Accountability

The performance management literature has highlighted several potential mechanisms for performance information to improve the public sector (Behn 2003). These can broadly be separated into efforts aimed at creating organizational learning and improvement (i.e. improvements to internal management), and increased transparency and accountability for the purposes of improving oversight and political responsiveness (i.e. external control) (De Lancer Julnes 2008; Moynihan 2008). Within the literature on external control and accountability, performance regimes have attracted considerable attention for their potential to result in several major changes to the public sector.

First, performance management reforms seek to reshape incentives and sanctions for managers and public sector employees by giving them greater incentives to be entrepreneurial and results oriented. In exchange for this increased pressure to achieve results, managers within performance regimes receive increased autonomy and discretion to shape work processes and make decisions about how to best accomplish organizational goals. Thus, performance management can be seen as an extension of the New Public Management ideology that stresses managerial creativity and adaptability as a mechanism for improving public management (Moynihan 2008).

In addition to restructuring the incentive and sanction structures that managers in the public sector face, performance management regimes also seek to aid external actors in their oversight responsibilities. By providing legislators, the

media, and citizens with objective and actionable data about organizational productivity, performance management regimes seek to reduce informational costs associated with oversight activities, thus improving the capacity for these external actors to hold organizations accountable for performance (Thomas 2001). Further, as external actors have access to more objective data about organizational performance, the quality of political deliberations should improve by becoming less ideological and politically motivated, and more firmly rooted in evidence based arguments about the extent to which public policies are effective in achieving important socially desirable outcomes, such as reducing crime and poverty and improving education, childhood development, and healthcare (Van De Walle and Bovaird 2007). Thus, some have highlighted the potential for performance regimes to result in "interactive dialogues" about the goals of public organizations and their effectiveness in achieving these goals (Moynihan 2006).

As performance regimes have become more and more commonplace over the last several decades, however, it has become increasingly apparent that they have been far less effective as a tool for administrative reform than many early proponents claimed they would be (Johnsen 2005; Joyce and Thompkins 2002; Moynihan 2008; Radin 2006; Schick 2001; Thurmaier and Willoughby 2001; U.S. Government Accountability Office 2005a, 2005b). In particular, critics have raised serious questions about the extent to which performance regimes have provided managers with the appropriate levels of discretion needed to accomplish their performance targets (Brudney, Hebert, and Wright 1999), about the potential for

them to create perverse incentives that undermine core public values (Bevan and Hood 2006; Bohte and Meier 2000; Piotrowski and Rosenbloom 2002; Radnor 2008), and about the willingness of political actors to take performance information seriously (Gilmour and Lewis 2006b; Hou et al. 2011; Melkers and Willoughby 2001; Thurmaier and Willoughby 2001).

In many ways, recent efforts at performance oriented reform in higher education have mirrored this discussion. While traditional accountability arrangements for public colleges and university have revolved mostly around procedural and access issues, and have largely been characterized as providing institutions with relatively little oversight or aggressive opposition, the last two decades have seen a dramatic shift in the approach taken by state governments (Zumeta 2001; Zumeta et al. 2012). Whereas state governments in earlier generations often approached public universities with considerable deference, the modern policy environment has become substantially more adversarial.

Much of this distrust has centered on concerns about the extent to which universities have been responsible in curtailing cost increases (Archibald and Feldman 2008a; McLendon, Hearn, and Deaton 2006; Mumper 2001). Additionally, some observers have been critical of the overall performance of public universities. According to the most recent data, the average public college in America graduates less than 60% of its students, and graduation rates for many minority groups are much lower (Carey 2008). Many have attributed this lack of performance to misaligned incentives for these institutions. Rather than rewarding

universities for focusing on undergraduate student outcomes, such as graduation rates and course completion, the current fiscal environment largely incentivizes enrollment. As a result, critics argue that public colleges often shirk on their responsibility for educating their undergraduates, choosing instead to focus on investments that aid in recruitment (i.e. construction of new dormitories and workout facilities) and that promote research and development (i.e. reduced teaching loads for full-time faculty) (Complete College America 2010b; Gillen 2013; Weisbrod, Ballou, and Asch 2008).

Performance funding policies seek to rectify these problems by integrating performance measures related to undergraduate student outcomes into the budgeting process (Burke 2005). While the size and scope of performance funding policies can differ substantially from state to state, the premise behind each of these policies is largely the same. As institutional funding structures are redesigned to be more performance oriented, state policymakers expect that administrators will shift priorities away from non-outcome oriented activities, and will focus more extensively on bolstering undergraduate education.

Despite the promise and potential for performance management, however, a number of recent studies have concluded that performance funding oriented reforms have had negligible impacts on organizational performance and student outcomes (Sanford and Hunter 2010; Shin and Milton 2004; Shin 2010; Volkwein and Tandberg 2008). While the empirical evidence about the reasons for the ineffectiveness of performance funding remain limited, many have highlighted

problems such as limited willingness of state actors to provide meaningful sums of additional funding for improved performance, as well as low buy-in and awareness of statewide performance objectives on the part of faculty and university administrators (Dougherty and Reddy 2011).

The Importance of Leadership for Performance Based Accountability

While there are a wide range of factors that doubtlessly influence the success or failure of any reform effort such as performance based accountability, one of the crucial variables that previous research has found to be a driving force behind the efficacy of these efforts is the extent to which organizational leaders and other key agency actors react favorably (Dull 2009; Franklin 2000; Mazmanian and Sabatier 1983; Meier 2009b; Moynihan and Ingraham 2004; Moynihan 2008). Even within the policy domain of higher education, which has sometimes been characterized as an area where organizational leaders are highly constrained in their ability to shape behavior (Cohen and March 1986), recent scholarship on performance funding has highlighted the importance of university presidents in shaping successful reform (Burke 2005; Dougherty and Reddy 2011).

Organizational leaders, such as university presidents, have the capacity to dramatically influence the effectiveness of performance oriented reforms for a variety of reasons. First, they often have considerable discretion, both in terms of the amount of energy and resources that are dedicated to various tasks within the organization, and in terms of the way they choose to structure work-flows within the organization. Within the performance management literature, several scholars

have found that managers' use of routines and structures, such as weekly meetings to discuss progress towards the achievement of performance metrics, plays a vital role in creating a performance oriented culture and improving productivity (Behn 2006; Moynihan, Pandey, and Wright Forthcoming; Moynihan 2008). Second, they provide both symbolic rewards and material resources to activities associated with satisfying a performance regime, which sends powerful signals to lower level employees about the extent to which they should aggressively implement the goals and objectives specified by the performance policy (Dull 2009). Third, as the leader of the organization, these actors are often in position to frame debates about mission and performance within the political arena, which can provide meaningful cues to other employees about the extent to which an accountability regime is credible and legitimate (Moynihan 2008).

Despite the central importance of administrative perceptions about performance based accountability mechanisms, existing scholarship has struggled to understand the sources of variation in the ways that administrators react to performance management reforms (Moynihan 2010). Moreover, even the broader literature on bureaucratic values and administrative politics has been relatively limited in examining the impact of individual-level beliefs among organizational leaders and public managers on policy implementation (Meier and O'Toole 2006). While there have been some notable recent developments in efforts to empirically measure bureaucratic values (Bertelli and Grose 2011; Clinton and Lewis 2008; Clinton et al. 2012), much of the existing research has relied primarily on the use of

proxy measures, such as gender or racial and ethnicity characteristics, to characterize the policy preferences of public administrators (Hicklin and Meier 2008; Keiser 2010; Keiser et al. 2002; Meier and O'Toole 2006; Meier and Stewart 1991, 1992; Nicholson-Crotty, Grissom, and Nicholson-Crotty 2011; Roch and Pitts 2012; Selden 1997; Sowa and Selden 2003).

As a result of these limitations, we know relatively little about the causal mechanisms that result in managerial acceptance or opposition of performance oriented reforms. This study seeks to contribute to both the literature on performance management, as well as discussions about bureaucratic values more generally, by exploring a broad range of variables at both the individual and organizational level to understand perceptions about the appropriateness of performance based accountability.

Survey of University Presidents

The data for this study come from a variety of sources. Most important among these is a survey of presidents at public colleges and universities, which captures both perceptions about accountability policies and their impacts on higher education, as well as values and beliefs regarding a variety of other issues, including beliefs about the ways that performance information is used by political actors in their state as well as their own political ideology. Following the 2011-2012 academic school-year, paper copies of the survey instrument were mailed to presidents at every public, 4-year institution that was listed as bachelor degree granting or higher according to the 2010 Carnegie system for classifying colleges

and universities. Of the 558 institutions that met this criteria, 138 respondents answered the survey, yielding a response rate of 24.7%[3].

Perceptions of University Presidents about Performance and Institutional Funding

The survey employed two questions to measure perceptions about performance based funding. First, the respondents were asked how much funding for their institution was dependent on performance. They were then asked to rate the extent to which they believed that funding *should* depend on performance (response categories for both questions ranged from 0 – Not at All to 10-Completely). Thus, the survey captures both perceptions about the extent to which performance is already important for funding, and also perceptions about the extent to which performance based approaches to funding higher education are normatively desirable. By taking the difference between these two questions, we can therefore construct a measure for perceptions about whether performance based funding has gone too far (i.e. funding depends more on performance than it should), or whether such policies should be expanded upon (i.e. funding should depend more on performance than it currently does).

[3] To assess potential threats to external validity posed by non-response bias, I analyzed respondent characteristics across a wide variety of institutional characteristics that are often viewed as important within the literature on higher education, and found them to be generally representative of the population of institutions that were surveyed

Figure 4.1: How Much Does Funding Depend on Performance?

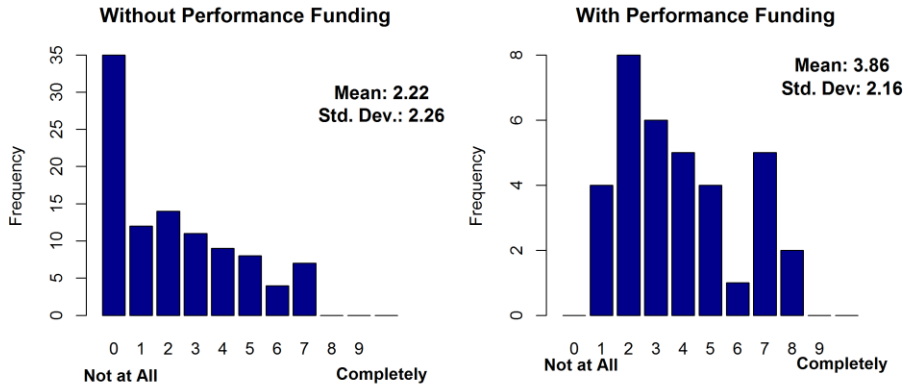


Figure 4.1 illustrates the distribution of responses for perceptions about the importance of performance for current levels of funding. Not surprisingly, university presidents largely perceive performance as relatively unimportant when it comes to the amount of funding that their university receives. The mean score on this question was 2.64, and 66.7 percent of respondents rated the importance of funding for performance as a 3 or lower. Interestingly, however, respondents from performance funding states do, in fact, perceive that funding depends more upon performance than do respondents from states without such policies (mean score of 3.86 compared for institutions in states with performance funding compared to 2.22 for those in states without). Given the findings from Chapter 3, which found no connection between performance and funding when examining objective budgeting data, this suggests that performance funding policies have been somewhat successful in changing perceptions about the importance of performance for funding, even though they often fail to provide substantial material incentives for improved performance.

Figure 4.2: How Much Should Funding Depend on Performance?

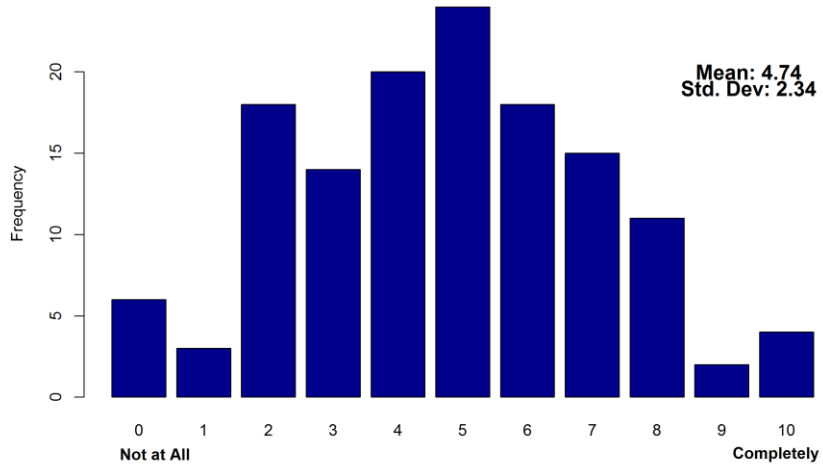
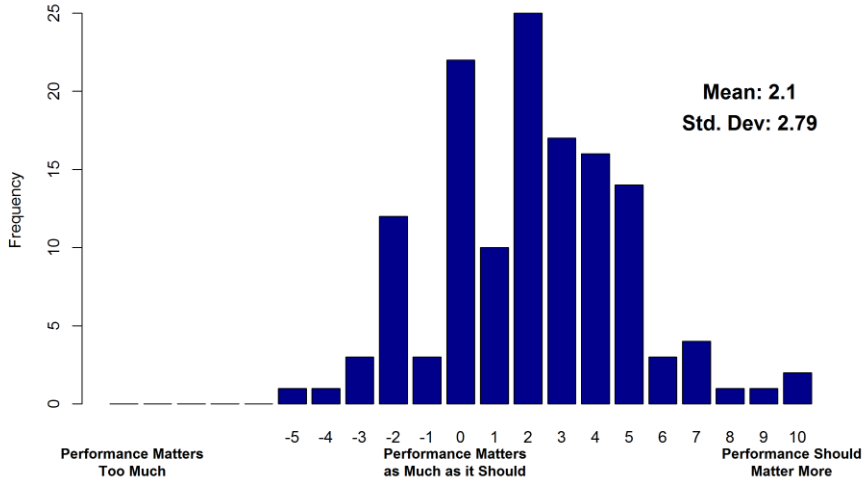


Figure 4.3: Differences Between How Much Funding Should Depend on Performance Versus How Much it Does Depend on Performance



Turning next to responses about the normative value of performance based funding (see figure 4.2), university presidents are much more supportive about the prospects of using performance in funding decisions than much of the mainstream narrative about accountability in higher education would suggest. The mean value for perceptions about the extent to which funding should depend on performance

was 4.74, and 54.8% of respondents answered 5 or above. Thus, university presidents, in general, are fairly open to an expansion of performance-based funding, at least in principle.

Similarly, figure 4.3 illustrates the distribution of values for the difference between perceptions of actual importance of performance versus perceptions about how much performance should matter for institutional funding. As previously discussed, positive values on this measure indicate respondents who believe that performance should matter more than it currently does, while negative values indicate respondents who believe that performance matters more than it should (a value of zero represents a respondent who believes that performance matters just as much as it should). The mean value for this measure is 2.1, which indicates that on average, university presidents would actually be in favor (at least in theory) of a movement towards *greater* use of performance information in the budgeting process.

In some ways, this finding that university presidents desire more performance oriented funding is surprising, given the existing narrative about opposition to performance funding policies on the part of many public universities. On the other hand, however, this finding underscores the fact that many institutions have become frustrated with the funding environment in their states. As the political climate has become increasingly hostile towards higher education, performance based funding may be viewed by some institutions as a way to increase funding. If, as a university president, you perceive that informal and

political processes are likely to result in reduced funding, then a movement towards a more objective and data driven funding model might be quite attractive, particularly if you know that your institution is performing well on salient dimensions of performance. This assumes, however, that the funding policy will be crafted in a way such that it is based on reasonable expectations and fair treatment of public universities, and that it actually rewards improved performance. It also assumes that performance management is a serious attempt at improving higher education, rather than an underhanded mechanism for policymakers to promote an ideological agenda aimed at privatization and reduced spending.

To better understand the source of variation in perceptions about whether performance based funding should be expanded, the remaining portion of this study will employ multivariate analysis, using OLS regression, on two dependent variables: 1) perceptions about how much funding should depend on performance, and 2) perceptions about whether funding should depend more or less on performance than it currently does. While similar, these two variables capture slightly different beliefs about performance based funding. The first measures perceptions about the desirability of performance based funding in the abstract, while the second indicates beliefs about whether current levels of performance based funding are appropriate relative to the desired level of performance driven funding. In order to limit the potential for common source bias (Meier and O'Toole 2012), and to gain insight on the importance on a variety of factors in the organizational and political environment, data for this analysis come from both the

survey and from publicly available datasets. Diagnostic tests for non-constant variance revealed heteroskedasticity in models for both dependent variables, so I used robust standard errors in the analysis that follows.

Administrative Reactions to Performance Based Funding

In thinking about the motivational bases for administrative behavior, scholarship has largely evolved around two competing views. On one side are those who argue that public administrators can generally be conceived of as self-interested, budget maximizing bureaucrats who are constantly working to exploit their informational advantages in order to avoid meaningful oversight (Finer 1941; Niskanen 1971). In contrast with this self-interested (and somewhat adversarial) framework, others have argued that public managers are better viewed as intrinsically oriented individuals who are largely responsive to professional norms and their own internal values systems (Bertelli and Lynn 2006; Friedrich 1940; Meier and O'Toole 2006; Perry and Wise 1990).

This study argues that, within the context of performance management, public managers are likely to be influenced by both perceptions about external rewards and by their own internal values. In the case of higher education, we would thus expect administrators at institutions that are already performing well on established benchmark indicators will be more accepting of performance oriented reforms. This is both because they are likely to perceive the potential for revenue increases, and also because they are less likely to see performance oriented reforms as a substantial threat. In higher education, graduation rates have become an

extremely popular metric for assessing institutional performance, both within academic research and within existing performance funding policies (see chapter 3 for a more extensive discussion about this). Data on six-year (150% of normal time) graduation rates come from the Integrated Postsecondary Education Data System (IPEDS). Because it generally takes one year after a cohort has graduated for this data to be collected and reported, this variable is lagged one year after the cohort graduated, or seven years after the cohort initially enrolled (thus, the graduation rate for the 2004 cohort represents the information that policymakers and university actors had access to during the 2011 school year).

H_1: University presidents whose institutions have higher graduation rates will be more accepting of performance-based funding.

Another factor that is likely to be important in perceptions of performance based accountability is the extent to which administrators have substantial first-hand experience with these policies. I include two measures of experience with performance based funding. First, I measure the extent to which institutional funding currently depends on performance, as a way to capture perceptions about the funding environment. Second, I also include a dichotomous measure for whether the institution is located in a state with a performance funding policy, using the same coding scheme that was employed for Chapter 3. It is unclear how we would expect exposure to performance based funding to impact perceptions about the appropriateness of such policies. One possibility is that university presidents who have first-hand experience with performance based funding become comfortable with it over time, and are thus less resistant to the idea of increased use

of performance information in the future. On the other hand, particularly if experiences with performance based funding are largely negative or have been perceived as unfair, the reverse may be true, in which case university presidents will be less accepting of performance based funding as they are exposed to these policies.

> *H_{2A}: University presidents who have experienced greater exposure to performance reforms will be more accepting of performance based funding.*
>
> *H_{2B} University presidents who have experienced greater exposure to performance reforms will be less accepting of performance based funding.*

Additionally, given the failure of many performance oriented reforms to live up to their potential, we might also expect administrators to be influenced by concerns about the extent to which these efforts represent meaningful efforts to improve performance, as opposed to political gamesmanship. I employ three variables to capture characteristics about the external political environment. First, I use the percentage of state legislators who are Democrats, collected from Carl Klarner's dataset on partisan balance (Klarner 2012), to capture the partisan make-up of the state. Given the fact that much of the opposition for higher education funding has come from Republican lawmakers, we might expect university presidents to perceive that accountability efforts in more conservative states are often thinly veiled attempts to move towards privatization or reduce state support for higher education. Thus, in states with more Democratic legislators, university presidents may be more likely to see performance management as a less threatening

attempt to make a good faith effort at improving governance and rewarding better performance. As a result, I expect that university presidents will be more likely to embrace performance oriented reforms as the percentage of state legislators who are Democratic increases.

> *H_3: University presidents in states with a higher percentage of Democratic legislators will be more accepting of performance-based funding.*

In addition to the partisan makeup of the state, I also employ two perceptual measures taken from the survey instrument about the ways that performance information is used by political actors. To capture perceptions about the extent to which performance information is used in dysfunctional ways, university presidents were asked about whether they believed that state actors often manipulate data to make it say whatever they want, whether they perceive that data is primarily used for political posturing rather than substantive policy improvement, and whether they felt that hostile actors often used data to unfairly punish their institution. Exact question wording for these items can be found in the appendix. The three items were combined into a single index ($\alpha = 0.715$).

> *H_4: University presidents who perceive that performance information use in their state is dysfunctional will be less accepting of performance based funding.*

In addition to these pragmatic motivations, I also expect administrative perceptions to be influenced by internal values, such as political ideology. Despite the fact that performance management is often trumpeted as a value-neutral, objective alternative to politically biased forms of decision-making, many of these

policies have in fact been implemented in ways that are clearly driven by ideology and partisanship (Clinton and Lewis 2008; Moynihan and Lavertu 2012; Radin 2006). Given that the ideological underpinnings of performance based accountability have often been associated with New Performance Management, and that many of these initiatives have been embraced by political conservatives, I expect that university presidents who identify as more politically conservative will have greater acceptance of performance based funding.

> *H_5: Political conservatism will be positively related to acceptance of performance based funding.*

Table 4.1: Summary Statistics (Chapter 4)

	Mean	Std.	Min	Max
Funding Should Depend on Performance	4.74	2.34	0	10
Funding Does Depend on Performance	2.64	2.34	0	8
Fund. Should Depend More on Perform. Than Does	2.10	2.79	-5	10
Performance Funding Policy	0.26	0.44	0	1
% of Legislators Democrats	44.49	12.85	19.05	82
Graduation Rates (Latest available info)	46.06	15.68	12.50	92.69
Dysfunctional Use of Performance Info.	4.45	1.32	1	7
Political Conservatism (1=Str. Lib.; 5=Str. Con.)	2.77	0.93	1	5
Research (Carnegie)	0.29	0.46	0	1
White	0.88	0.32	0	1
Male	0.76	0.43	0	1
Experience	5.91	4.54	0.17	21
% Minority Students	20.34	20.50	2.27	96.05

I also control for experience, as measured by the number of years that a respondent has been president at their current university, and for race and gender, though I have no clear directional hypotheses about how these variables will impact acceptance of performance based funding. Finally, given the important differential impacts that performance based funding is often expected to have on institutions according to their mission and student body characteristics (Burke 2005; Dougherty

and Reddy 2011; Fryar 2011), I also include control measures for whether the respondent is president at an institution that is classified as a research university according to the 2010 Carnegie Basic classification scheme, as well as the percentage of students who are either Hispanic of African-American. As was the case with graduation rates, these data come from IPEDS. Summary statistics for all variables can be found in table 4.1.

Results

Results for the first dependent variable (perceptions about the extent to which funding should depend on performance) are listed in table 4.2. As previously discussed, I measure exposure to performance based accountability in two ways: 1) perceptions about the extent to which funding depends on performance and 2) whether the state has adopted a performance funding policy. Given the fact that performance funding policies appear to be an important factor in shaping perceptions of how much institutional funding depends on performance, there are potential issues with endogeneity and multi-colinearity for these two measures ($r = 0.308$). Thus, I ran separate models with each measure included independently, as well as a third model with both included. Models 1, 2, and 3 reflect these alternate specifications.

Taken together, there are several important findings that emerge from these models. First, with regards to exposure to performance based accountability, I find that perceptions about the extent to which funding *does* depend on performance are

positively related to perceptions about the extent to which it *should* depend on performance. A one

standard deviation increase in perceptions about the importance of performance has results in almost a one point increase in perceptions about how much funding should depend on performance (2.34 * 0.400 = 0.936). Interestingly, however, experiences with performance funding policies themselves have the opposite effect.

With regards to the external political climate, I find that perceptions about the extent to which funding should be dependent on performance are positively related to the percentage of state legislators who are Democrats. A one standard deviation increase in the percentage of Democratic legislators results in more than a 0.3 point increase in perceptions about the extent to which funding should depend on performance (12.85 * 0.025 = 0.321). Conversely, perceptions about the extent to which performance information is used in a dysfunctional manner are negatively related to perceptions about the extent to which funding should depend on performance. A one standard deviation increase in beliefs that performance information is used dysfunctionally within the political process (1.32) results in a 0.59 point decrease in acceptance of performance based funding. Finally, objective measures of organizational performance (graduation rates) are positively related to perceptions about the extent to which performance should govern funding levels. A one-standard deviation increase in institutional graduation rates (15.68) is associated with a 0.61 increase in perceptions about the extent to which performance should be important.

Table 4.2: How Much Should Funding Depend on Performance?

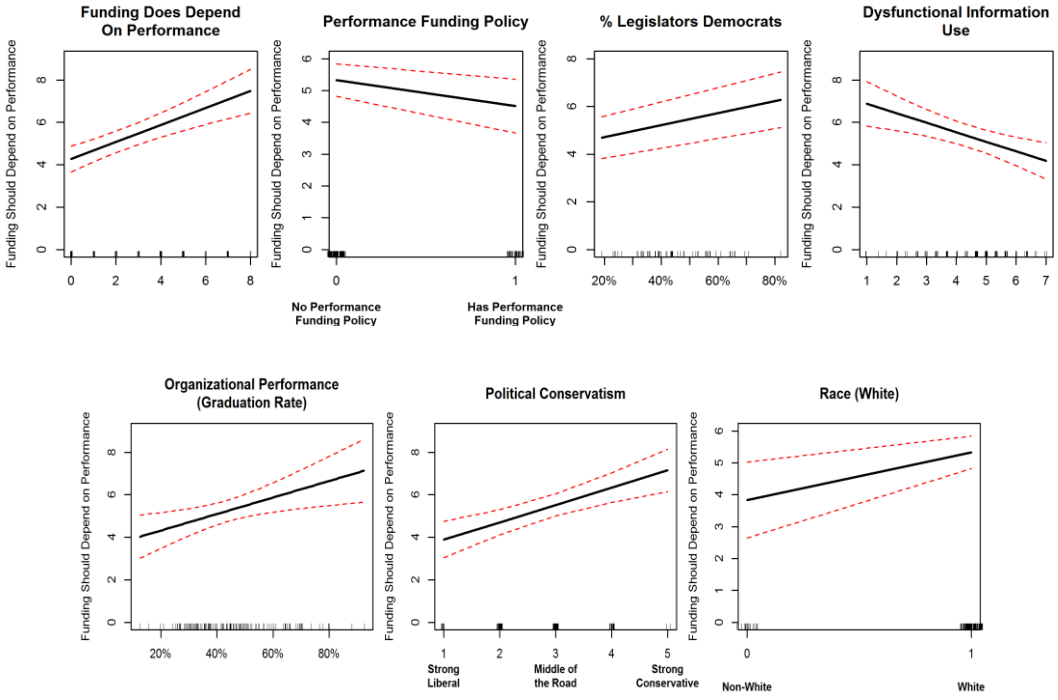
	(1)	(2)	(3)
Experiences with Performance Funding			
Funding Does Depend on Performance	**0.360*****		**0.400*****
	(4.97)		**(5.25)**
Performance Funding Policy		-0.204	**-0.819**$^{+}$
		(-0.42)	**(-1.76)**
External Political Environment			
% of Legislators Democrats	**0.026**$^{+}$	0.021	**0.025**$^{+}$
	(1.72)	(1.40)	**(1.77)**
Dysfunctional Use of Performance Info.	**-0.462****	**-0.310***	**-0.449****
	(-3.00)	**(-2.00)**	**(-2.84)**
Organizational Performance			
Graduation Rates (Latest available info)	**0.045****	**0.031**$^{+}$	**0.039***
	(3.15)	**(1.82)**	**(2.55)**
Internal Values and Demographics			
Political Conservatism	**0.782*****	**0.828*****	**0.816*****
	(3.73)	**(3.91)**	**(4.13)**
White	**1.602***	**1.382**$^{+}$	**1.498***
	(2.43)	(1.95)	(2.28)
Male	0.172	0.252	0.183
	(0.44)	(0.54)	(0.49)
Experience	-0.028	-0.058	-0.016
	(-0.75)	(-1.60)	(-0.41)
Controls			
Research (Carnegie)	-0.119	0.156	-0.048
	(-0.23)	(0.29)	(-0.10)
% Minority Students	0.012	0.010	0.010
	(1.41)	(1.04)	(1.09)
Constant	-0.964	0.356	-0.686
	(-0.70)	(0.22)	(-0.50)
Observations	121	121	121
R^2	0.376	0.254	0.395

t statistics in parentheses
$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

With regards to internal values and demographic variables, there are also a few notable findings. Most importantly, I find that political conservatism is positively related to perceptions about the importance that performance should play

in guiding institutional funding. A shift from the very liberal to very conservative is associated with an increase of more than 4 points on perceptions about the extent to which funding should depend on performance. I also find that White respondents are associated with increased acceptance of performance based funding. To help gain a sense for the magnitude of each of the relationships discussed above, figure 4.4 displays effects plots for each of the variables that achieved statistical significance. In these plots, all other variables are set to their mean or modal values, and the variable of interest is allowed to vary across the range of reported values.

Figure 4.4: Effect Plots for Statistically Significant Variables



Should Funding Depend on Performance More Than it Does?

Turning next to beliefs about the extent to which funding *should* depend on performance more than it *does*, findings are presented in table 4.3. One potential

concern about this variable is that responses for those who rate performance as having a large impact on funding might vary in some systematic way in terms of their relationship with perceptions of how much funding *should* depend on performance from those who see performance as having little relationship to funding. In other words, a respondent who rates the importance of performance for funding as an 8 and who says that funding should depend entirely on performance (10) would score a value of 2, but this person might be qualitatively different than someone who says that funding does not depend at all on performance (0) but that it should depend on performance a little (2). To help control for this possibility, I ran a second set of models where perceptions about the importance of performance for funding are included on the right-hand side of the equation, and the substantive interpretation of the model remains largely unchanged.

In large part, these results support the findings presented about perceptions regarding the desired importance of performance for funding in the abstract. As was the case before, I find that exposure to performance funding policies is associated with a lower level of acceptance of performance based funding, while the percentage of legislators who are Democrats and objective organizational performance (graduation rates) are positively related to beliefs about the extent to which performance should depend on performance more than it does. I also find that perceptions about the extent to which performance information is used in a dysfunctional manner are negatively related to acceptance of increased reliance on performance based funding. Finally, both political conservatism and racial

demographics (White) are again statistically significant and positively related to perceptions that performance based funding should be expanded.

Table 4.3: Should Funding Depend on Performance More Than It Does?

	(4)	(5)
Experiences with Performance Based Funding		
Performance Funding Policy	**-1.740*****	**-0.819**$^{+}$
	(-3.41)	**(-1.76)**
External Political Climate		
% of Legislators Democrats	**0.031**$^{+}$	**0.025**$^{+}$
	(1.84)	**(1.77)**
Dysfunctional Use of Performance Info.	**-0.657*****	**-0.449****
	(-3.65)	**(-2.84)**
Organizational Performance		
Graduation Rates (Latest available info)	**0.050****	**0.039***
	(2.79)	**(2.55)**
Internal Values and Demographics		
Political Conservatism	**0.798****	**0.816*****
	(3.09)	**(4.13)**
White	**1.671**$^{+}$	**1.498***
	(1.94)	**(2.28)**
Male	0.080	0.183
	(0.20)	(0.49)
Experience	0.048	-0.016
	(0.99)	(-0.41)
Controls		
Research (Carnegie)	-0.353	-0.048
	(-0.63)	(-0.10)
Funding Does Depend on Performance		**-0.600*****
		(-7.86)
Constant	-2.247	-0.686
	(-1.27)	(-0.50)
Observations	121	121
R^2	0.394	0.603

t statistics in parentheses
$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Discussion

Overall, the findings from the empirical analysis above make a number of notable contributions to our understanding of leadership and managerial responses to performance management regimes. The finding that political ideology is strongly related to perceptions about performance based funding is both interesting and important. First, the fact that university presidents exhibit variation in terms of political ideology, and that these ideological values influence policy preferences in meaningful ways helps to confirm existing theories about the importance of bureaucratic values in policy implementation (Bertelli and Lynn 2006; Meier and O'Toole 2006). Second, and perhaps more importantly, while performance regimes are often promoted as an apolitical, value-neutral based reform, these results suggest that such claims should be approached with considerable skepticism. The fact that the partisan make-up of the state legislature influences perceptions of performance based accountability only reinforces this point. Despite the efforts of many reformers in recent years to pursue bipartisan efforts for performance based reforms, beliefs about the appropriate role of performance information in governing public institutions continue to be ideologically charged.

One interesting prospect for future research on this topic would be to explore the causal mechanisms for this divisiveness. It may be the case that differences about opinions related to legitimacy of performance management are driven by deep normative beliefs related to the appropriateness of results oriented government and the validity of quantitative data. Alternatively, it may be the case

that opinions about performance management are more driven by heuristics and group attachments, wherein political conservatives are more favorable to them because they perceive that performance management is often promoted by other conservatives. In other words, is this a clash of worldviews and ideologies, or simply a conflict related to political partisanship and the way that people interpret reform efforts? As reformers think about potential ways to "de-politicize" performance management, these questions will be of central importance.

In keeping with this theme, this study also found important effects from the external political environment. As one might expect, public administrators are not likely to be receptive to performance based reforms if they perceive that the information and data generated by such reforms are likely to be used for political, rather than substantive purposes. Unfortunately, existing research suggests that creating forums and environments where performance information is likely to be taken seriously and not abused for political purposes will be a difficult task (Moynihan 2008; Sabatier and Jenkins-Smith 1993; Weiss 1988). Often times, both elected officials and actors within the advocacy community face strong incentives in the short term to use performance data to further their own political agenda, rather than to pursue policy aimed at the collective good. Moreover, as distrust between competing coalitions tends to increase exponentially over time (Sabatier and Jenkins-Smith 1993), it can be almost impossible to establish neutral and objective bases of performance and measurement that everybody agrees on. When performance management is added to these types of environments, it is likely

to exacerbate conflicts, rather than help alleviate them. Thus, a more thorough examination of the causal factors that can create well-functioning performance based regime is warranted, and would be a suitable topic for future studies.

Perhaps the most important finding from this study is that performance based funding policies are poorly equipped to shift managerial preferences about the value of performance based accountability. This is true whether we measure these perceptions as an abstract normative concept related to the attractiveness of performance based funding, or if we compare their normative preferences to their perceptions about the current budgetary process. The fact that performance funding policies have not only been largely been ineffective at shaping objective budgetary incentives (see Chapter 3), but are also associated with lower levels of support for performance based approaches to funding suggests that administrators have often reacted negatively to them, not because they are opposed to performance management in practice, but rather because they perceive the policies themselves as ineffective and perhaps harmful.

It remains unclear, however, if this disconnect is the result of policy design, the lack of incentives for improved performance, or the adversarial nature in which many of these policies have been adopted and imposed on institutions. I find strong evidence that university presidents are not only open to the idea of performance based funding, but that when they perceive that their funding actually depends on organizational performance, they become more comfortable with the idea of further movement towards performance based accountability. This suggests

that the failure of performance funding in higher education may have more to do with the individual policies that have been adopted and implemented, rather than an inherent flaw in performance based accountability. It is important to note that as future states adopt these policies, they may be able to learn lessons from previous failures in performance management, which could result in more effective accountability mechanisms moving forward. Thus, it is vital that future research examine questions of policy design and adoption in greater detail in order to better address some these more nuanced questions about performance regimes and effective policy design.

Conclusion

Performance based funding reforms have become incredibly popular in recent years, but there has been remarkably little scholarly attention to questions about managerial perceptions of and responses to these efforts. This study found that administrative perceptions of performance based regimes are driven by a variety of factors, including both pragmatic concerns and ideological values. In doing so, it also uncovered a number of potential shortcomings with existing performance funding policy efforts, and suggests that while administrators are relatively open to the idea of performance based reforms, in theory, that they remain skeptical about their implementation in practice.

Chapter V – Using Data for Performance at Public Universities

Thus far, this dissertation has focused primarily on performance data and its role in budgeting and external accountability, but this is not the only way that performance information is used within the public sector. In addition to these external accountability systems, there has also been a dramatic increase in the extent to which many organizations (both public and private) have sought to incorporate data and performance management as a tool for improving internal operations so they can become more adaptive, efficient, and effective (Behn 2003; Karr et al. 2006; de Lancer Julnes and Holzer 2001; Moynihan 2008; Willis, Mastrofski, and Weisburd 2007).

Although these internal performance management systems are similar in some respects to external accountability arrangements (most notably in that they both rely heavily on quantitative data as a tool for improving decision-making), they also differ in important ways. First, external accountability policies are essentially mandatory policies that public organizations must participate in, while internal management systems are largely voluntary efforts that agencies have considerable discretion to shape and use (or not use) as they wish. Second, while external systems are adopted with the primary goal of achieving accountability and political control, internal systems are largely implemented with the primary goals of improving organizational performance and dealing with external stakeholders.

Despite the increasing prevalence of performance management within public agencies throughout government at all levels over the last couple of decades, there is still substantial variation in the extent to which organizations employ these tactics. While some have been quite aggressive in using performance information and data to drive decisions, others have been hesitant to do so (Behn 2008; Kroll and Vogel 2013; de Lancer Julnes 2008; Moynihan and Hawes 2012; Moynihan, Pandey, and Wright 2012; Moynihan and Pandey 2010; Poister, Pasha, and Edwards 2012; Pollitt 2006). Given that performance oriented reforms have become so salient in recent years, questions about the factors that drive the adoption and use of performance systems for internal management are of central importance (Kroll 2012; Moynihan 2010).

Within higher education policy, there has been considerable effort recently to not only understand the types of external accountability arrangements that are discussed in chapters 3 and 4, but also to explore important questions regarding the implementation of internal performance management systems and routines. In particular, researchers have begun to seriously think about ways that quantitative data and internal performance diagnostics can be employed to help promote better student learning outcomes, to contain rising costs and tuition increases, to identify opportunities for external funding from alumni and private donors, and to be more effective in efforts to expand capacity for research and development (Coburn and Turner 2012; Colyvas 2012; Ewell 2011; McLaughlin and McLaughlin 2007; Weisbrod, Ballou, and Asch 2008).

This study uses data taken from a survey of presidents at public universities (the same survey that was employed in the previous chapter) to advance our understanding about the use of data and performance management strategies within public organizations. The central research question for this chapter is, "Why do university administrators choose to employ performance management strategies?" In addition, I also explore variation in the extent to which public universities use performance management strategies for three tasks that are central to public management: 1) strategic planning, 2) evaluating employees, and 3) interacting with external stakeholders.

Why Use Performance Management?

While research about external systems of accountability and performance based budgeting has generally found these reforms to be ineffective (Bohte and Meier 2000; Brudney, Hebert, and Wright 1999; Hood 2006; Radin 2006; Ravitch 2010; Thurmaier and Willoughby 2001), scholarship about performance management within organizations is much more optimistic about the potential for performance information to generate positive outcomes and promote organizational learning (Behn 2006; Moynihan 2008). As opposed to inter-institutional settings, where performance data is often used in an adversarial manner that leads to distrust and heightened political conflict, performance information use within organizations can often be quite productive because it provides a mechanism for managers and employees to gain a better sense of both long-term strategic plans and short-term challenges. Because agencies tend to be less heterogeneous in terms of the

preferences and values that members hold, as compared to actors in electoral institutions and the broader political environment, and because they often contain hierarchical structures that reduce transaction and decision-making costs, performance data, as a tool of internal management, can often be effective even in policy areas where external systems of performance based accountability have been dysfunctional or ineffective (Moynihan 2008).

Performance management has several potential benefits for public organizations. As organizations build routines and structures to analyze and discuss performance information, they not only enhance the capacity for managers to evaluate the performance of subordinates and to provide guidance or corrective action when needed, but they also build a culture that is oriented around learning and adaptation (Behn 2006). Further, Moynihan (2005) argues that when used effectively, performance management can also lead to "double loop" learning, which allows agencies to re-evaluate key assumptions and values that underlie the central goals and mission of the organization. In doing so, public agencies are better positioned to help identify breakdowns in both the design and causal logic of programs and policies, and can help put forth alternative strategies for dealing with complex social problems that may be more effective. For example, Moynihan (2005) found "double-loop" learning brought on by performance management in the Department of Corrections allowed Vermont to make crucial changes in policies aimed at rehabilitation and overcrowding. These changes ultimately produced substantial improvements in the state's criminal justice system, and

helped the agency identify and correct long-term issues that many other states are still struggling to deal with. Thus, performance management represents an important mechanism by which organizations can improve their capacity to learn from mistakes, to improve efficiency and effectiveness, and to promote change.

While performance management can sometimes be useful, however, it also imposes non-trivial costs on individuals and organizations. These include both psychological and cognitive costs associated with using quantitative data as opposed to less formal and more inter-personal sources of information to guide decision-making (Behn 2002; Kroll and Vogel 2013), along with the material costs associated with designing and maintaining analytical systems to manage data collection and storage (Radin 2006). As a result of these costs, performance management has often been characterized as an under-utilized strategy within the public sector (Barzelay 1992; Hatry 2006; Julnes and Holzer 2008; Keehley and Abercrombie 2008; Osborne and Gaebler 1992). Indeed, often times external systems of accountability are adopted, in part, to encourage greater use of performance data within public organizations (Moynihan and Hawes 2012).

Thus, we can think of performance management as a type of investment, with both potential payoffs (in the form of improved information and enhanced capacity to learn and adapt) and potential costs (such as the effort associated with collecting and analyzing data or the potential for PM to create hostility, distrust, or perverse incentives that undermine organizational culture). The key puzzle, then, is

to understand why some organizations and managers choose to make this investment, while others do not.

Who Uses Performance Management?

In recent years, as scholars have become increasingly interested in developing a theory of performance information use, and as practitioners and policymakers have sought to encourage public organizations to employ performance management strategies, empirical research on the factors that drive the adoption and use of performance management has exploded in popularity. Kroll (2012) identifies at least twenty empirical studies of managerial use of performance information, and highlights a wide range of variables, at the individual, organizational, and environmental levels that have been found to be important. These include factors such as organizational culture and access to resources, managerial experience and personal values, and influence from external political actors. Unfortunately, many of these studies have found conflicting results as to the relative importance of these factors, and it remains unclear whether these differences are due to variation in survey design, differences in the various policy areas that scholars have analyzed, or if they are simply a result of measurement error. As a result, several scholars have called for additional research to further explore this topic (Ammons and Rivenbark 2008; Kroll 2012; de Lancer Julnes 2008; Moynihan and Hawes 2012; Poister, Pasha, and Edwards 2012; Yang and Pandey 2009).

It is also important to note that there are many ways that managers might use performance data within their organizations to achieve better outcomes. Behn (2003) identifies eight purposes for performance management. These include efforts aimed at improving evaluation of program effectiveness, recognizing and celebrating successes, control over subordinates, budgeting, employee motivation, external engagement and demonstration of value to stakeholders, and tasks related to learning and organizational improvement. Van Dooren, Bouckaert, and Halligan (2010) condense this list, and argue that there are three main ways that performance information can be used: 1) for learning, 2) for steering and control, and 3) for giving account to external stakeholders. Unfortunately, while scholars have made considerable progress in terms of conceptualizing the various uses of performance data, we know much less about how the causal factors that shape decisions to use data for these purposes.

The fact that performance management relates to such a broad array of administrative tasks suggests that decisions about using these strategies will be complex and contextual. In organizations like public colleges and universities, which have a large number of broad, and somewhat ambiguous goals related to tasks ranging from undergraduate instruction, to research and scientific discovery, to public service and community involvement (Cohen and March 1986), this may be particularly true. While performance management is often talked about as a package of potential reform strategies that more or less clump together, it may be more useful, as Behn (2003) suggests, to more carefully explore differences in the

ways that organizations approach using performance management with respect to different tasks and objectives. For instance, one might expect the factors that lead an organization to employ performance management with respect to learning and change to differ, at least somewhat, from the factors that drive decisions about using performance information and data to assess employees or engage external stakeholders about organizational productivity. With a few notable exceptions (Moynihan and Hawes 2012; Moynihan and Lavertu 2012), however, much of the existing empirical research has operationalized performance information use as a single concept, rather than as a strategy that managers might be more or less likely to employ for various purposes. This study seeks to make an important contribution to this gap in the literature by evaluating organizational use of performance information, both as a single concept, and disaggregated by various administrative functions.

Using Data for Performance at US Public Universities

The data for this chapter come from a variety of sources. Most notably, this chapter uses the same survey of presidents at public universities that I discussed in the previous chapter. Whereas Chapter 4 was primarily concerned about perceptions about external accountability efforts, however, this chapter focuses on a series of items aimed at understanding the extent to which public universities employ performance management strategies and use performance data within the organization to guide decisions and improve performance. More specifically, the survey asked respondents to assess their institution's use of performance data for

tasks ranging from the evaluation of teaching and research ability of faculty and instructors, to identifying organizational strengths, to engaging external stakeholders about the value produced by the university. Table 5.1 provides information about the item wording as well as the mean response for each item.

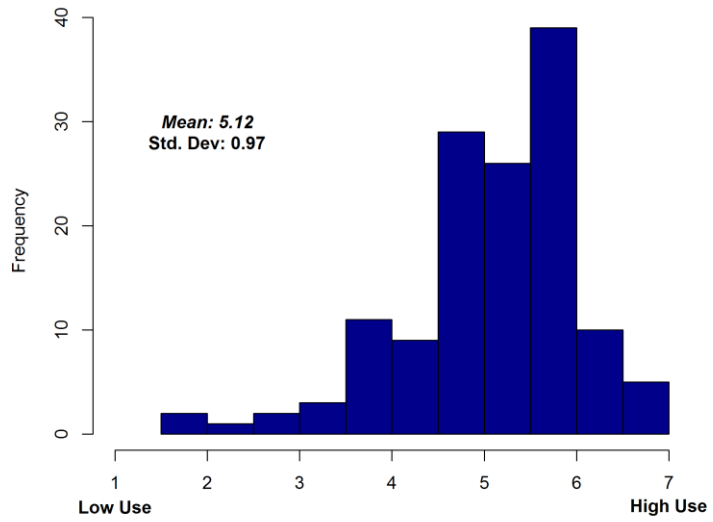
Table 5.1: How Much Do Public Universities Use Performance Data?

Item (1=Strongly Disagree;7=Strongly Agree)	Mean	Variable Name
My institution uses performance data to improve overall decision making.	5.66	DECISIONS
My university uses performance data to help identify areas that can be improved or made more efficient.	5.64	IDENTIFY
My university uses performance data to show outside stakeholders and political actors what we produce with revenues we have.	5.23	STAKEHOLDERS
Overall, managers at my university use performance data on a regular basis.	5.15	REGULAR
My university uses performance data to track and assess the teaching ability of faculty and instructors within each department.	4.96	TEACHING
My university uses performance data to help managers oversee employees and hold them and accountability for their performance.	4.92	OVERSEE
Deans at my university are evaluated based on their performance with respect to specific goals and targets.	4.91	DEANS
Within each department at my university, there are regular schedules and routines for reporting and analyzing performance data.	4.88	ROUTINES
My university uses performance data to track and assess the research productivity of faculty and instructors within each department.	4.72	RESEARCH

Overall, presidents at public universities indicate a relatively strong commitment to performance management. Across the nine items represented in Table 5.1 (each of which is measured on a seven point scale where 1 equals strongly disagree and 7 equals strongly agree) mean responses ranged from a high

of 5.66 (my institution uses data to improve overall decision making) to a low of 4.72 (my university uses performance data to track and assess the research productivity of faculty and instructors within each department). Even for the lowest rated item (assessing research ability of faculty), over 64 percent of respondents answered with a 5 or above.

Figure 5.1: Use of Performance Data at Public Universities



To get a better sense of the distribution of responses about performance data use, figure 5.1 illustrates a histogram for an index (Chronbach's $\alpha = 0.822$) that was created from the aforementioned items (mean = 5.12). While the reliability of this index suggests that performance management can reasonably be operationalized as a single concept, it is also important to note that there are notable theoretical reasons to suspect that the causal factors influencing each form of use might differ somewhat (Behn 2003). Thus, the empirical analysis that follows proceeds in two steps. First, I examine factors that predict use of performance data in the aggregate

using an index[4] created from all of the performance data use items. Second, I examine use of performance data with respect to each of the nine individual items described above, which I classify into the three main categories of performance information use identified by Van Dooren, Bouckaert, and Halligan (2010): 1) Evaluation of employees, 2) Strategic Planning and Organizational Routines, and 3) Engagement with External Stakeholders.

Predictors of Performance Data Use

As previously discussed, there has been considerable empirical research on performance management and performance information use in recent years. In large part, this literature has focused on variables from the external environment (policy context, political and bureaucratic oversight, and economic/fiscal situation), as well as variables dealing with the internal organizational climate (organizational capacity, mission), and leadership characteristics (managerial values, demographics, and experience), and my analysis follows this trend.

External Environment: Accountability, Oversight, and Funding Instability

As chapters 3 and 4 demonstrated, higher education policy has witnessed a substantial shift in the relationship between state governments and public universities. Increasingly, state governments are demanding that public institutions be accountable for performance related to things such as research productivity, student outcomes and cost-efficiency (Zumeta 2004). One manifestation of this heightened focus on accountability has been the adoption of performance funding

[4] While there is some criticism about the use of indices for multivariate analysis such as this, I ran alternate models using a principal component and a factor score created from the nine survey items, and results were substantively identical. Thus, for ease of interpretation, I employ a simple index.

policies, which seek to directly link institutional funding to organizational performance (Burke 2002). From a political control perspective, these external accountability systems provide an important mechanism for state governments that are attempting to influence the behavior of public managers (Meier and O'Toole 2006; Thomas 2001). Indeed, while these policies do not directly force institutions to alter their internal management practices, some have argued that, in addition to external accountability, they are often designed with a secondary purpose of pushing institutions towards greater use of performance management techniques (Dougherty and Reddy 2011; Ewell 1997, 2011).

I measure the strength of the performance regime in two ways. First, I employ a dichotomous variable to identify states that have adopted a formal performance funding policy (see chapter 3 for a more extensive discussion of this variable and the way it is coded). Second, given the findings from Chapter 4, which highlighted the importance of perceptions about accountability, I also include a measure for perceptions about the extent to which institutional funding depends on performance[5]. If external systems of performance based accountability are effective at influencing organizational use of performance management, we should expect to find a positive relationship between the adoption of these systems and the use of performance data by public universities.

[5] As discussed in chapter 4, there are some potential issues related to endogeneity regarding these two variables. As one might expect, perceptions about the importance of funding are related to the adoption of performance funding policies. To ensure that this did not bias my findings, I conducted a series of analyses involving alternate model specifications, and found that model results were substantively the same whether these two measures were included independently or jointly.

H_{1A}: Public universities in states that have adopted performance funding policies will be more likely to use performance data for internal management.

H_{1B}: When the university president perceives a stronger relationship between performance and state appropriations, public universities will be more likely to use performance data for internal management.

In addition to impacts on performance management that are directly related to the policy climate, scholars have found that characteristics of political principals can be an important predictor of information use (Ammons and Rivenbark 2008; Bourdeaux and Chikoto 2008; Bourdeaux 2006; Moynihan and Hawes 2012; Moynihan and Lavertu 2012). As political principals exert greater influence on public organizations, research has generally found that use of performance management increases. Given that public universities are largely accountable to state governments, I include a measure for the influence of state political actors. This measure was constructed by averaging responses to two items contained on the survey instrument that asked university presidents to rate (on a scale from 0 to 10) the influence of the state legislature and the influence of the governor[6].

H_2: Public universities will be more likely to use performance data for internal management when the university president perceives that political actors in their state have more influence.

In addition to political actors who hold elected office, such as the state legislature and the governor, public universities must also be accountable to

[6] Though the legislature and executive branches are often treated separately in analyses of political influence, these items correlated relatively highly (r= 0.78), such that including them as separate measures introduced serious issues associated with multicolinearity, which are particularly problematic given the relatively small sample size. Thus, for this analysis, I combine them into a single concept, which measures the influence of state political actors.

administrative bodies, such as regional accrediting agencies and statewide governing or coordinating boards. Within higher education policy research, the degree of centralization in the state's higher education governing and coordinating agencies has often been found to be important in understanding institutional behavior, particularly with respect to accountability relationships (Hearn and Griswold 1994; Knott and Payne 2004; Lowry 2001; McLendon, Hearn, and Deaton 2006; Nicholson-Crotty and Meier 2003; Richardson and Martinez 2009; Volkwein and Shaukat 1997; Volkwein and Tandberg 2008).

I control for administrative structure by including a dichotomous variable to indicate whether the state has a centralized governing board, as opposed to a coordinating or planning agency. While I expect that governance structure matters, it is unclear whether greater centralization would be associated with higher or lower levels of use. On the one hand, we might expect that more centralized agencies would be more effective at exerting influence on universities than would non-centralized agencies, and that governing boards would thus be associated with greater use of performance data (Nicholson-Crotty and Meier 2003). On the other hand, previous research on accountability in higher education has found that these centralized agencies often serve as a buffer against performance regimes, and thus tend to dampen the role of data driven accountability (McLendon, Hearn, and Deaton 2006). Further, given that these more centralized bodies often have more full-time and professional staff, it may be the case that they have enhanced capacity

and expertise related to performance assessment, which could reduce the need for institutions to build their own systems.

> *H_{3A}: Public universities in states with centralized governing boards will be more likely to use performance data.*
>
> *H_{3B}: Public universities in states with centralized governing boards will be less likely to use performance data*

Another form of regulatory oversight in higher education deals with the role of regional accrediting agencies. These agencies are responsible for periodically reviewing university practices and degree programs, and have often been found to be influential in shaping university behavior (Spellings 2006). I also include a series of dichotomous variables to measure potential differences in performance data use across universities that report to various regional accrediting agencies, though I have no clear hypotheses about which regions will be more or less likely to use data.

Finally, a third variable from the external environment that may impact organizational use of performance data is the uncertainty or volatility of important revenue streams. A long line of research in public administration has found that organizations in more unstable environments need to adopt flexible and adaptive structures and routines in order to cope with uncertainty and rapid change (Mintzberg 1979; Thompson 1967; Wilson 1989). Within higher education, one area of uncertainty that is likely to have a substantial impact on public universities relates to the stability of state appropriations. As state governments have increasingly played a reduced role in supporting institutions of higher learning,

public universities have been forced to become more entrepreneurial and proactive in order to identify new streams of revenue and limit cost inefficiencies (Weisbrod, Ballou, and Asch 2008). Thus, we might expect that universities will be more open to incorporating performance data and other administrative reforms when the funding environment becomes more volatile. The survey asked presidents to rate the stability of state appropriations on a 1 to 7 scale, where 1 equals very volatile and 7 equals very stable. I have reverse coded this question to create a measure of volatility in the external funding environment.

> *H_4: Public universities will be more likely to use performance data when the external funding environment is more volatile.*

Organizational Capacity and Mission

In terms of variables from the organizational environment, I focus on two key factors. First, I consider the impact of organizational capacity to collect and analyze performance data. I measure organizational capacity for performance management with an index of three items (Chronbach's $\alpha = 0.74$) taken from the survey. Respondents were asked to rate whether they agreed or disagreed with the following statements (1 – Strongly Disagree to 7- Strongly Agree), such that higher values indicate greater limitations in organizational capacity for performance management:

> *It is difficult for my institution to fund systems (staff, computer databases, etc…) that are dedicated to tracking and analyzing performance data.*
>
> *There are other problems at my institution that we must address before we can worry about designing a new performance data system.*

It has been difficult to figure out which indicators to measure and how to measure them.

As previously discussed, performance management imposes substantial costs on organizations. In order for performance data to be valid, reliable, timely, and useful for decision-making, organizations must dedicate a significant amount of money, time, and staff towards developing systems capable of tracking, storing, and analyzing internal metrics of performance (Hatry 2006; Keehley and Abercrombie 2008; Pulakos 2009). In some cases, particularly when resources are limited and the capacity for administrative reform is constrained, these costs may be prohibitive (Berman and Wang 2000). In the case of public colleges and universities, those institutions that have faced serious budget cuts, or that are chronically underfunded and understaffed, we might expect that performance data use will be less prevalent because managers have few, if any, resources to dedicate towards building administrative capacity.

H_5: Public universities will be less likely to use performance data when they have limited resources and organizational capacity for creating performance management systems.

I also include a dichotomous variable for research universities to account for potentially important differences in organizational mission. Given that these institutions dedicate a substantial portion of time and resources towards the production of research and scientific knowledge, often times with explicit the goal of improving their national ranking and prestige, we might expect that they will not only have a greater capacity to deal with the analytical costs associated with

performance management, but that they will also be more likely to see these types of data driven analytical efforts as useful, legitimate, and valuable.

H6: Research universities will be more likely to use performance data than will other public universities.

Leadership Characteristics: Managerial Values, Experience, and Demographics

The final category of variables that I include relate to the personal characteristics of organizational leaders (in this case, university presidents). As the previous chapter discussed, organizational leaders have often been found to be highly influential in shaping the culture, routines, and practices of their agencies (Bennis and Nanus 1985; Dull 2009; Kaufman 1960; Meier and O'Toole 2006; Moore 1995; Moynihan and Ingraham 2004). In thinking about the relevant personal characteristics for performance data use, I focus on three important factors: 1) political ideology, 2) experience, and 3) demographics.

With regards to ideology, I expect that political conservatism will be positively related to use of performance data. Just as performance management systems impose material costs on organizations, they also impose cognitive on individuals who must make decisions about which types of information are valid and reliable (Kroll and Vogel 2013). Given that the performance management movement has often taken on a politically conservative valence, particularly due to its association with New Public Management and arguments related to privatization and market-based competition (Box 1999; Frederickson and Stazyk 2010; McLendon, Hearn, and Deaton 2006; Moynihan 2008; Pollitt 1993), I expect that

leaders who identify as political conservatives will be more likely to embrace performance data as a tool for administrative reform, whereas political liberals will be less likely to do so.

H7: Public universities will be less likely to use performance data when the university president is politically conservative.

Table 5.2: Summary Statistics (Chapter 5)

	Mean	Std. Dev	Min	Max
General Use of Performance Data	5.12	0.97	1.56	7
Performance Data Use For Personnel Evaluation	4.88	1.14	1.50	7
Performance Data Use For Strategic Planning	5.33	1.01	1	7
Performance Data Use For External Engagement	5.23	1.29	1	7
Performance Funding Policy	0.26	0.44	0	1
Funding Depends on Performance	2.64	2.34	0	8
Influence of State Political Actors	4.70	2.17	0	10
Governing Board Structure	0.30	0.46	0	1
Middle States Association of Colleges and Schools	0.13	0.34	0	1
New England Association of Schools and Colleges	0.05	0.22	0	1
North Central Association of Colleges and Schools	0.41	0.49	0	1
Northwest Comm. on Colleges and Universities	0.07	0.26	0	1
Southern Association of Colleges and Schools	0.31	0.46	0	1
Western Association of Schools and Colleges	0.03	0.17	0	1
Volatility of State Appropriations	5.01	1.54	1	7
Limited Organizational Capacity for PM	3.91	1.33	1	6.67
Research (Carnegie)	0.29	0.46	0	1
Political Conservatism	2.77	0.93	1	5
Experience	5.91	4.54	0.17	21
White	0.88	0.32	0	1

With respect to experience, previous research has found that more experienced managers are often better able to develop and use performance management strategies (Dull 2009; Folz, Abdelrazek, and Chung 2009; Ho 2006; Melkers and Willoughby 2005) I measure experience as the number of years that a respondent has been president at their current university. Additionally, some scholars have found that demographic characteristics play an important role in

shaping managerial use of performance information, so I control for race, though I have no clear expectations about its impact on performance data use.

H8: Public universities will be more likely to use performance data when the university president is more experienced.

Summary statistics are presented in table 5.2. As previously discussed, the empirical analysis for this study proceeds in two parts. In the first stage, I explore predictors of general use of performance data, which I measure by taking an index of the nine survey items outlined in table 5.1. In the second stage, I explore differences between alternative purposes for using performance data (evaluating employees, strategic planning and organizational learning, and external engagement).

Findings – General Use of Performance Data

Turning first to general use of performance data, results are presented in table 5.3 and there are several important findings. Contrary to the expectations established by proponents of performance based accountability, I find a negative relationship between use of performance data for internal management and the presence of an external performance funding policy. All else equal, institutions in states with performance funding policies scored 0.55 points lower on the data use index than institutions in states without these policies. Given the findings of previous work on performance based accountability (Fryar 2011; Sanford and Hunter 2010; Shin and Milton 2004; Shin 2010; Volkwein and Tandberg 2008), which largely suggest that these performance funding policies have been ineffective in a variety of areas, this negative result is not necessarily unexpected. One

possible explanation is that performance management has backfired in these states because perceptions about the ineffectiveness of external systems of accountability have translated into lowered expectations about the extent to which performance data and performance management are appropriate and useful in higher education.

Table 5.3: Use of Performance Data and Performance Management Strategies

	β	T
Performance Based Policy Environment		
Performance Funding Policy	**-0.553***	(-2.42)
Funding Depends on Performance	0.052	(1.34)
Oversight and Regional Accreditation		
Influence of State Political Actors	**0.061**$^{+}$	(1.74)
Centralized Governing Board	**-0.549***	(-2.05)
New England Association of Schools and Colleges	**-0.943***	(-2.03)
North Central Association of Colleges and Schools	-0.348	(-1.24)
Northwest Commission on Colleges and Universities	0.361	(0.97)
Southern Association of Colleges and Schools	-0.268	(-0.94)
Western Association of Schools and Colleges	**-1.283**$^{+}$	(-1.66)
Stability of Funding Environment		
Volatility of State Appropriations	**0.138***	(2.20)
Organizational Capacity and Mission		
Limited Org. Capacity for PM	**-0.146***	(-2.43)
Research (Carnegie)	**0.464***	(2.32)
Managerial Characteristics		
Political Conservatism	**0.206***	(2.58)
Experience	0.010	(0.45)
White	-0.188	(-0.74)
Constant	**4.569*****	(8.91)
Observations	128	
Adjusted R^2	0.197	

t statistics in parentheses
$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

While it is beyond the scope of this study to determine whether this is due to problems in policy design and implementation that are specific to the actual policies that have been adopted, as opposed to faulty causal logic regarding performance management as a general concept, it is important to note that we see no such negative relationship when looking at perceptions about the importance of funding. Indeed, the coefficient on perceptions about the importance of funding for performance is actually positive, though it fails to achieve statistical significance. This suggests that negative experiences with performance funding policies may be more related issues of failed implementation, and that future attempts at performance based accountability might be more successful if the policies are designed and implemented in ways foster greater acceptance on the part of university administrators.

With regards to oversight and accreditation, I find that universities are more likely to use performance data when political actors (the legislature and governor) in their state are more influential, but that they are less likely to do so when the state has a centralized governing board. For political oversight, a one standard deviation increase in legislative and governor influence is associated with a 0.13 increase in the performance use index (2.17 * 0.061), whereas institutions in states with governing boards score 0.55 points lower. The negative relationship for centralized governing boards indicates that, as McLendon et al (2006) find, these boards often serve as a buffer to protect public institutions against external pressures.

I also find significant relationships between regional accreditation agencies and the use of performance data. Both the New England Association of Schools and Colleges and the Western Association of Schools and Colleges are associated with lower performance data use than are other regional accreditation agencies (the Middle States Association of Colleges and Schools serves as the referent group). And finally, in terms of variables from the external environment, I find a positive relationship between volatility in the funding climate and the use of performance data. A one standard deviation increase in perceptions about the volatility of state appropriations is associated with an increase of approximately 0.21 on the performance data use index (1.54 * 0.138 = 0.213).

In terms of the two variables for organizational capacity and mission, I find that organizations that with greater limitations in their capacity to track and analyze data are less likely to use performance management, while research universities are more likely to do so. For organizational capacity, a one standard deviation increase in limitations on capacity is associated with a decrease of approximately 0.19 on the data use index (1.33 * -0.146 = 0.194). Conversely, public research universities score about 0.46 points higher on the use index than do other public universities, all else equal.

Finally, I find a positive relationship between the political conservatism of the organizational leader (i.e. university president) and the use of performance data. A one standard deviation increase in political conservatism is associated with an increase of 0.19 on the data use index (0.93 * 0.206 = 0.192). Contrary to previous

research, I find no relationship between managerial experience and propensity to use performance information.

Findings –Performance Data Use for Evaluation, Planning, and Engagement

In the second stage of this analysis, I move beyond performance management as a general concept to explore the ways that organizations use performance data to achieve different goals. To do so, I categorize the nine survey items used earlier according to the three primary purposes for performance management (evaluating employees, strategic planning and organizational learning, and engaging external stakeholders) that have been outlined by existing literature which resulted in the creation of two additional indices. The first index, which measures data use for the purpose evaluating employees, was created by averaging responses to four items (TEACHING, RESEARCH, OVERSEE, DEANS) personnel assessment (Chronbach's $\alpha = 0.79$). For data use regarding strategic planning and organizational learning, I combined an additional four items (DECISIONS, IDENTIFY, ROUTINES, REGULAR) from the survey that relate to data as a tool for strategic planning (Chronbach's $\alpha = 0.82$). Finally, the survey contained one item (STAKHOLDERS) that asked about use of performance data for interacting with external actors, which I employ to examine performance data use related to stakeholder engagement[7].

Table 5.4 lists the findings for these three types of performance management (using the same set of independent variables that were employed for the first stage),

[7] I ran ordered logistic regression for this model, but the findings were substantively the same so I present OLS results for ease of interpretation.

Table 5.4: Using Performance Data for Evaluation, Planning, and Engagement

	Evaluate	Plan	Engage
Performance Based Accountability			
Performance Funding Policy	**-0.633***	**-0.454+**	**-0.591***
	(-2.17)	(-1.93)	(-2.04)
Funding Depends on Performance	0.068	0.029	0.064
	(1.54)	(0.70)	(1.29)
Oversight and Accreditation			
Influence of State Political Actors	0.044	**0.067+**	**0.118***
	(1.06)	(1.86)	(2.15)
Centralized Governing Board	-0.461	**-0.662***	-0.455
	(-1.63)	(-2.26)	(-1.31)
New England Assoc. of Schools and Colleges	**-0.973+**	**-0.869***	-0.220
	(-1.87)	(-2.04)	(-0.33)
North Central Assoc. of Colleges and Schools	**-0.646+**	-0.125	-0.033
	(-1.96)	(-0.43)	(-0.08)
Northwest Comm. on Colleges and Universities	0.031	0.531	**1.037+**
	(0.08)	(1.27)	(1.94)
Southern Assoc. of Colleges and Schools	-0.495	-0.106	0.007
	(-1.58)	(-0.33)	(0.02)
Western Assoc. of Schools and Colleges	-1.145	**-1.346+**	**-1.488***
	(-1.42)	(-1.69)	(-1.99)
Stability of Funding Environment			
Volatility of State Appropriations	**0.136***	**0.136+**	0.137
	(2.08)	(1.91)	(1.49)
Organizational Capacity and Mission			
Limited Org. Capacity for PM	**-0.175***	**-0.144***	-0.070
	(-2.35)	(-2.35)	(-0.82)
Research (Carnegie)	**0.561***	0.293	**0.688****
	(2.47)	(1.38)	(2.72)
Managerial Values and Demographics			
Political Conservatism	**0.214***	**0.181***	**0.253+**
	(2.17)	(2.14)	(1.94)
Experience	0.013	0.002	0.027
	(0.54)	(0.09)	(1.15)
White	-0.055	-0.193	**-0.637***
	(-0.20)	(-0.71)	(-2.14)
Constant	**4.533*****	**4.824*****	**3.887*****
	(7.15)	(8.80)	(4.89)
Observations	128	129	129
Adjusted R^2	0.145	0.166	0.148

t statistics in parentheses

$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

and while some of the results are consistent with earlier findings for general use of performance data, several important differences emerge between models related to use for evaluation, planning, and engagement. One area where I observe notable differences is with respect to the effect of influential state politicians. Whereas there is no statistically significant relationship between political influence and use of performance data for evaluation of employees, I find positive and significant relationships with respect to data use for both planning and for stakeholder engagement. Further, the size of the coefficient is approximately twice as large for external engagement when compared to strategic planning. Conversely, I find that volatility of the external funding environment and organizational capacity are significant predictors of data use related to evaluation and planning, but not for stakeholder engagement. Additionally, whereas centralized governance structure is related to strategic planning but not the other two types of use, research mission is related to use for evaluation and stakeholder engagement, but not for strategic planning. Taken together, these results suggest that performance management is indeed more complex than a single aggregate measure would imply, and that organizations are pushed, by a variety of forces, to use data for distinct purposes.

Discussion and Implications

Taken together, the findings from this study highlight a number of important implications for performance management and the use of data within public agencies.

One particularly interesting finding was the fact that political influence is associated with higher use for stakeholder engagement, but not for evaluating employees. This has important implications for the role of external accountability in shaping administrative reform. Whereas the goal of external oversight is often to shape administrative behavior, particularly related to internal management and service delivery, these results suggest that the primary effect such efforts have on public organizations is to cause them to re-shape the kinds of information they provide to political principals. Thus, rather than increasing the amount of political control that electoral institutions exercise over public agencies, increased oversight efforts may instead be deflected by agencies that strategically use data to buffer against hostile political efforts. Given that much of the focus in the performance management literature has treated public agencies as relatively passive actors who must adapt and absorb the impacts of performance based accountability, these results suggest that future research would be well-served to think more extensively about the ways that agencies proactively use data as a tool to ward off adversarial coalitions and political principals.

Secondly, I find that organizational use of performance data is strongly related to the political ideology of agency leaders. Given that performance management reforms are often promoted as a value-neutral alternative to politics and partisanship, this finding has major implications for the way we think about these reforms. Rather than removing values or biases from the public sector, as proponents often claim, performance management instead appears to be vehicle

through which personal preferences and predispositions of bureaucrats and organizational leaders can influence implementation.

One interesting question for future research is to explore whether this is related to underlying worldviews related to privatization and a preference for market-based mechanisms of competition and accountability (as much of the previous literature on performance management suggests), or whether it is instead related to political rhetoric and partisan debates about these techniques that have colored the way people think about data-driven management. Are conservatives more likely to use data because performance management is largely consistent with an underlying worldview, or is this instead related to cues they receive from other political elites? A potential way to get at this question would be to explore differences in propensity to use data that speak to various values and definitions of performance (i.e. equity versus efficiency), particularly as this relates to the broad worldviews and normative values for various actors within the political system. Thus, while this study focused on differential use according to tasks or activities, it is important that future work also think about the role that the content and design of performance metrics and data might play in shaping use.

Finally, the importance of organizational capacity for performance information use is a key finding that has major implications for future performance oriented reforms. Often times when we see movements to shift towards a more performance based accountability system, the discussion centers on perceptions that public agencies are inherently inefficient and resistant to change. As a result,

many recent experiences with accountability have tended to focus more on punitive mechanisms for underperforming organizations, without also considering the need to improve organizational capacity. Within the context of performance management, the costs that these systems impose on agencies and administrators is often discounted by external actors, which can result in unrealistic expectations or pressures regarding the propensity for data driven reforms to improve performance. Moving forward, future efforts at encouraging performance information use within public agencies need to seriously consider ways to build organizational capacity and provide the resources and expertise needed to make use of data.

Conclusion

As performance management has become increasingly prevalent within the public sector, questions about the ways that the data produced by these systems are used have come to the fore. This chapter focused on data use within public colleges and universities, and found that these management systems were influenced by external pressures and political conditions in combination with internal organizational characteristics and leadership values. It also extended the literature on performance information use by empirically exploring performance management as a multi-dimensional concept that influences distinct management tasks and purposes. In doing so, I find notable differences in the factors that are associated with greater use of different forms of performance data, particularly with respect to use aimed at

stakeholder engagement as opposed to use related to evaluation and strategic planning.

Chapter VI: Conclusion

Public organizations exist in an environment wherein citizens and the media are increasingly distrustful of government. Further, as many people have come to view the public sector as inefficient, ineffective, and unable to adapt to the needs of modern society, market-based ideologies that favor privatization, competition, and results-based management have become prominent in recent years. At the same time, the rise of information technologies and advanced computing systems has made it easier to track, store, and analyze data than it has ever been in the past. As a result of these trends, the performance management "movement" has become ubiquitous in the public sector (Radin 2000). Perhaps nowhere has this been more evident than in higher education. Public colleges and universities once held a privileged position in American politics, and were celebrated as shining examples of research, innovation, and high-quality undergraduate education. Today, however, they often confront skepticism about their value to the public, hostility about rising costs, and frustration with lagging performance. This has created the demand for increased oversight and accountability, and universities have been forced to adapt (Zumeta 2001).

Unfortunately, despite heated debate about the merits of this performance based approach, both within the practitioner community and within the scholarly literature, serious questions remain about the impacts that this "movement" has had on management. Public agencies expend considerable time and energy on the collection and reporting of performance metrics, but it is often unclear how (or

whether) this information is used by decision-makers. Given that this data must be interpreted and acted on by human actors in order to have an impact, this represents an important limitation. After all, if performance information is not used, or if it is used in dysfunctional ways, then regardless of how helpful or insightful the data that these systems generate might be, performance management is destined to be an exercise in futility. Thus, it is critical that we understand the causal mechanisms by which performance data and performance management impact public agencies and the administrators who staff them. Collectively, the chapters in this dissertation contribute to a relatively new, but growing, body of theoretically grounded empirical research on the role of performance data in shaping decisions and behavior in both policymaking and public management.

Implications for Theory: Performance Management and External Control

One of the major debates about public management and the role of performance data in governance centers around the efficacy of externally imposed accountability mechanisms. One the one hand, many scholars (mainly political scientists) have argued that top-down structures that constrain discretion and employ strong material rewards and punishments to induce desirable administrative behavior are desirable (Finer 1941; Macdonald 2010; MacDonald 2007; Mathew D. McCubbins, Noll, and Weingast 1987; Mathew D. McCubbins 1985; Matthew D. McCubbins, Noll, and Weingast 1989; Scholz and Wood 1998). From this perspective, performance management is an important tool that external actors can use in order to decrease information asymmetries and to restructure the financial

incentives that public managers face. Ideally, managers will respond to these external pressures by cutting waste and inefficiency, and pushing additional resources towards activities to help accomplish objectives that are important to political principals (Thomas 2001).

A competing view (largely held by public administration theorists), holds that this top-down approach is inherently flawed because it ignores the important role of internal values in shaping administrative behavior (Carpenter 2001; Clinton et al. 2012; Friedrich 1940; Lipsky 1980; Meier and O'Toole 2006; Miller and Whitford 2007; Redford 1969). Scholars who subscribe to this viewpoint argue that when external accountability structures are imposed on public agencies without appropriate attention to the perceptions and beliefs of administrators, they are likely to result in severe dysfunction. If administrative actors perceive these external policies as illegitimate or without substance, they are likely to resist or undermine top-down structures. From this perspective, performance management represents a potential hazard because it can threaten the internal ethics and values of public managers.

The findings from chapters 3, 4, and 5 all speak to this debate in important ways. One of the major conclusions from chapter 3 was that performance management has largely been ineffective as a tool for restructuring financial incentives in higher education. Similarly, chapters 4 and 5 found that performance funding policies were not able to shape perceptions about the legitimacy of performance based accountability, nor were they able to induce greater use of

performance data for internal management. This is likely due to a couple of factors. First, it is important to remember that public colleges and universities are already subject to a variety of overlapping accountability mechanisms, including formal accreditation and bureaucratic oversight as well as more informal ties to political actors in state legislatures and governor's offices. Thus, performance management policies are simply another layer in the governance of higher education, and their effects are often dampened or negated by countervailing forces. Centralized governing boards, for example, have been found to buffer public colleges against accountability efforts (McLendon, Hearn, and Deaton 2006). Similarly, politicians are often too concerned with potential electoral consequences associated with reducing funding to institutions in their district to impose serious budget cuts, even when universities underperform (Lowry 2001; McLendon, Mokher, and Doyle 2009)

Second, the multidimensional nature of performance in higher education makes it difficult to impose strong external controls. Public universities are valued not only for undergraduate instruction and workforce preparation, but also for their capacity to engage in public service for the community, to promote diversity and tolerance, and to generate research and scientific breakthroughs that benefit society as a whole. As a result, it is difficult for any single measure, or even collection of measures, to adequately capture institutional "performance" in a comprehensive manner. Rather, what states have tended to do is create funding policies that reward performance along several dimensions, and as a result virtually every

institution in the state has some measure of performance they can use to qualify for additional funding (Dougherty and Reddy 2011). Thus, performance funding policies have been less about restructuring incentives, and more about codifying funding priorities that already existed in the state, at least to some extent.

Despite this rather pessimistic view of performance management, I also find evidence that these programs can, in fact have desirable effects on public administrators, though they often do so through more indirect means. Chapter 3 found that, despite the lack of financial incentives or punishments, public universities nevertheless respond to performance policies by shifting expenditures towards activities that political principals desire (research as opposed to instruction). This is largely due to a combination of symbolic meaning, and shifts in perceptions of administrators about the role of accountability. This implies that in order to understand the impact of top-down accountability structures, we should not only consider their efficacy in terms of direct influences on public organizations, but we must also account for their capacity to indirectly shift perceptions.

Chapter 4 examines this issue directly, and finds that perceptions about the normative legitimacy of performance based funding were largely driven by beliefs about the extent to which organizational funding already depended on performance. While the performance funding policies themselves did not move beliefs about the desirability of performance based accountability, managers who perceived that their organization's funding was largely dependent on performance were, in fact, more

positive about accountability. Moreover, beliefs about the extent to which performance was important for institutional funding were positively correlated with the existence of performance funding policies. Thus, while the direct effect of performance funding is negligible (and is, in fact, often negative), it would be a mistake to completely discount the capacity for these policies to have important impacts on public management.

Finally, in keeping with much of the literature on bureaucratic values, I find that the personal beliefs and values of organizational leaders (as measured by the political ideology of university presidents) is often a good predictor of the reception that performance management receives within organizations. This is true not only with regards to perceptions about the legitimacy of performance based accountability, as chapter 4 showed, but also with regards to use of performance data for internal management, as chapter 5 illustrated. These findings re-enforce an existing literature on the importance of accounting for bureaucratic values and suggest that future research in this area should continue to explore ways to measure these values directly, rather than relying on proxy measures such as race and demographics. In terms of the literature on performance management, these findings also confirm previous research that has found New Public Management and performance based accountability, which are often billed as value neutral, "good government" reforms, are instead highly politicized and driven by ideological motivations and biases.

In addition to this debate about external accountability and the tension between political control and administrative discretion, this dissertation also speaks to important issues within the literature on public management. Most notably, chapter 5 has direct implications for research on information use within public organizations. Not only do I find empirical support for many of factors that previous research has suggested should be important for performance information use, but I also extend this research by examining use across the three major purposes of performance management. One of the major takeaways from this chapter is that performance management requires organizations to make investments in order to build analytical capacity. Thus, if we want to understand why some organizations use performance data while others do not, it is important to consider factors that influence both ability to bear the costs of investment (such as the availability of resources to dedicate to performance management), as well as the goals that performance management is intended to achieve.

Implications for Practitioners

This dissertation also has important implications for practitioners and policymakers who are interested in implementing performance management policies and systems. In particular, chapters 4 and 5 suggest that policymakers should be especially attuned to the potential for dysfunctional use of performance information within the political process to have negative impacts over the long-term. As public administrators perceive that performance information is manipulated or used primarily for posturing rather than to substantively improve

policy, they are much less likely to take performance based accountability seriously or to view it as legitimate. Given that elected officials often face strong incentives in the short-term to use performance data as a means for achieving political ends, this represents a significant challenge.

While it is beyond the scope of this project to assess the mechanisms that prevent dysfunctional use of performance data (but see (Moynihan 2006, 2008) for a discussion of some potential ways to make performance management less contentious), one clear implication of this is that policymakers should think about performance management as a tool that can only be as effective as the surrounding political climate. Thus, as policymakers consider implementing performance oriented reforms, they should also be careful to address underlying issues with the political climate. In other words, while performance management is often billed as a tool to combat gridlock and polarization, it is more likely to exacerbate these issues rather than solve them.

A second important implication for policymakers relates to the importance of organizational capacity. Often times performance based accountability policies are adopted as a way to try and spur organizational improvement, particularly for agencies that are struggling to achieve important goals and objectives. Unfortunately, these policies can sometimes create an environment where organizations are punished for poor performance, without receiving adequate resources to address important problems. As chapter 5 demonstrates, one of the key factors in driving use of performance data is the extent to which organizations

have the capacity to build these systems. For many universities, leaders might prefer to employ performance management practices, but they are unable to do so because they have more pressing concerns. For presidents institutions that are struggling to fund basic services, such as academic counseling or full-time faculty, investments in expensive data management systems are likely to be treated as luxury items that be cut in times of fiscal distress. Unfortunately, the institutions that struggle to fund performance management systems are often the very same universities where student outcomes are lagging and where performance management could be of substantial benefit.

If the goal of performance based accountability is to spur organizational improvement, then it is important that policymakers also be willing to address limitations in organizational capacity. This means that performance policies should not only be crafted in ways that promote equity and allow for differential treatment of organizations based on context (i.e. based on some comparison with peer institutions in terms of mission, selectivity, and student body composition), but that they should also be accompanied with additional funding to build administrative capacity. Unfortunately, the current fiscal environment for higher education has seen substantial disinvestment on the part of state governments, which has worked to substantially reduce institutional resources, particularly at open-enrollment teaching oriented colleges (Cheslock and Gianneschi 2008; Zumeta et al. 2012). Nevertheless, despite the fact that performance management is often accompanied by aggressive political rhetoric about "taking on" the bureaucracy and holding

"lazy" or "incompetent" employees accountable for their actions, these policies are likely to be much more effective when the relationship between public agencies and political institutions is more supportive and less adversarial.

Limitations and Directions for Future Research

As previously stated, one of the major conclusions from this dissertation is that performance funding policies in higher education have been largely ineffective as a tool for improving governance. Interestingly, however, I also find that university leaders are relatively open to moving towards a more performance oriented funding scheme, and that heightened perceptions about the importance of performance in the funding process are often positively related to administrative responses. This suggests that the failure of performance based funding in higher education may have more to do with inadequacy related to the specific policies that have been adopted, rather than an inherent flaw in performance based accountability as a general concept.

Unfortunately, it remains unclear whether these failures are due to problems related to the adoption process, whether they are driven by issues related to policy design and the selection and specification of performance metrics, or whether it has to do with the failure of these policies to deliver substantial financial rewards and incentives. In other words, although this dissertation provides robust evidence that performance based funding policies have been ineffective, we still know little about why, exactly, they have not worked. Future research should examine these issues

carefully so that we can gain a better understanding of the mechanisms by which external based accountability policies can be improved.

Another important area for future research relates to the ways that citizens use performance data. Given the fact that many of these regimes are designed with an explicit goal of making government more transparent and increasing democratic oversight, it is important that we develop a more extensive understanding about whether they have been effective at doing so. Unfortunately, we know very little how people use performance information in their capacity as citizens (James 2011; Pollitt 2006a). As James (2011) points out, this is problematic, because a great deal of empirical and normative work in political science suggests that citizens need accurate information about their government its performance in order for democracy to function properly (Delli Carpini and Keeter 1997; Downs 1957; Zaller 1992).

Some preliminary studies suggest that voters place little emphasis on performance metrics as a mechanism for assessing incumbent candidates, and that as a result, there are few electoral incentives associated with performance management (Hood and Dixon 2010; James and John 2007; James 2011). On the other hand scholars have also found that providing citizens with objective information regarding agency performance can have a meaningful impact on support for public policies, and assessments of government performance (James 2011; Kelly 2011). Thus, it appears that information about the performance of public agencies can have meaningful impacts on public opinion and citizen

perceptions regarding the legitimacy and effectiveness of public policy, but it remains unclear exactly how (or if) it results in any discernible change in the behavior of lawmakers or agency officials.

Finally, this dissertation project has primarily focused on performance as a general concept, and has largely relied on existing policies to define the various dimensions of performance. There is considerable room, however, for future research to use performance management as a way to gain better leverage about normative issues related to performance. As much of the technical, "how to" literature on performance management notes, performance can be measured in a variety of ways (Hatry 2006). These include measures of a particular outcome in the aggregate, traditional cost-efficiency measures that track how much "bang for the buck" a particular program or activity produces, measures that focus on equity, fairness, and diversity, and perhaps even metrics related to due process and Constitutionality. Given that performance based accountability is largely built around the idea of enhancing democracy, it is important that we gain a better sense for the preferences people have for these (often) competing dimensions of performance. By examining the ways that actors across a variety of institutional settings and with a diversity of worldviews interpret and interact with performance data, there is tremendous potential to develop a better understanding of the process by which beliefs about the normative importance of various dimensions of performance are formed.

Performance management and the use of quantitative data for decision-making have become omnipresent in the public sector. Moreover, despite heated debate about the value of performance based accountability and performance management, we are unlikely to see this trend fade anytime in the near future. As a result, questions about the use of this information and its impacts on the policymaking process are incredibly important, for both scholars and practitioners. Ultimately, the success or failure of performance management, and to a large extent, the public sector, hinges on whether we can continue to make progress in developing theory driven empirical research to explore crucial causal mechanisms related to the ways that people and individuals process and use performance data. While this dissertation makes a number of important contributions to our understanding of some of these processes, there remains much work to do. My sincere hope is that this project will not only motivate continued attention and research about these topics, but that it will also help lay the groundwork for improved governance in the decades to come.

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Appendix A: Survey of University Presidents and Chancellors[8]

As mentioned in the cover letter, many states link some portion of higher education appropriations to quantifiable performance measures, which can vary tremendously. Given the variation, it is difficult to capture all of the possibilities in a fixed format survey. For this study, when we speak of performance data, we are referring to **quantitative measures that capture some dimension of student outcomes.**

How much does the amount of funding that your institution receives in state appropriations depend on performance?

Not at all					Somewhat					Completely
0	1	2	3	4	5	6	7	8	9	10

How much *should* the amount of funding that your institution receives from state appropriations depend on performance?

Not at all					Somewhat					Completely
0	1	2	3	4	5	6	7	8	9	10

How involved are you in helping to design policies that use data regarding the performance of public institutions for budgeting, accountability, and oversight in your state?

Not Involved At All					Somewhat Involved					Extremely Involved
0	1	2	3	4	5	6	7	8	9	10

How involved are other campus leaders and university representatives in helping to design policies that use data regarding the performance of public institutions for budgeting, accountability, and oversight in your state?

Not Involved At All					Somewhat Involved					Extremely Involved
0	1	2	3	4	5	6	7	8	9	10

[8] Please note that some of the page formatting and arrangements of tables has been altered from the original survey instrument to comply with the Graduate College's margin/spacing requirements.

Now please think about the role that performance information plays in higher education policymaking *in your state*, and indicate whether you agree or disagree with the following statements.

	Strongly Disagree						Strongly Agree
Political leaders in my state often use performance data when crafting the budget.	1	2	3	4	5	6	7
Political leaders in my state often use performance data when they make new policies that affect higher education.	1	2	3	4	5	6	7
Citizens in my state are well informed about my institution's actual performance.	1	2	3	4	5	6	7
If people want to, they can manipulate performance data to make it say whatever they want.	1	2	3	4	5	6	7
Performance data is used more for political posturing than it is for objectively assessing institutional productivity.	1	2	3	4	5	6	7
I worry that performance data will be used to unfairly punish my institution.	1	2	3	4	5	6	7
I often use performance data as a way to demonstrate my institution's value when dealing with political actors who are hostile towards higher education.	1	2	3	4	5	6	7
The accountability system in my state is fair for everybody.	1	2	3	4	5	6	7
The accountability system in my state has improved the quality of higher education.	1	2	3	4	5	6	7

Please indicate the extent to which you believe the following indicators are <u>legitimate</u> performance measures for your institution.

	Not Legitimate At All										Completely Legitimate
Graduation Rates	0	1	2	3	4	5	6	7	8	9	10
Retention Rates	0	1	2	3	4	5	6	7	8	9	10
Bachelor's Degree Completions	0	1	2	3	4	5	6	7	8	9	10
Class Sizes/Student to Faculty Member Ratio	0	1	2	3	4	5	6	7	8	9	10
Student Achievement on National Learning Assessment Exams	0	1	2	3	4	5	6	7	8	9	10
Tuition and Fees Costs for In-State Students	0	1	2	3	4	5	6	7	8	9	10
Minority Student Outcomes	0	1	2	3	4	5	6	7	8	9	10
Student Diversity	0	1	2	3	4	5	6	7	8	9	10
Faculty Diversity	0	1	2	3	4	5	6	7	8	9	10
US News and World Report Rankings	0	1	2	3	4	5	6	7	8	9	10

Competitive/External Research Grants Awarded	0	1	2	3	4	5	6	7	8	9	10

Now, thinking about those same indicators, please indicate the extent to which you believe they are <u>important to *political leader*s</u> in your state.

	Not Legitimate At All										Completely Legitimate
Graduation Rates	0	1	2	3	4	5	6	7	8	9	10
Retention Rates	0	1	2	3	4	5	6	7	8	9	10
Bachelor's Degree Completions	0	1	2	3	4	5	6	7	8	9	10
Class Sizes/Student to Faculty Member Ratio	0	1	2	3	4	5	6	7	8	9	10
Student Achievement on National Learning Assessment Exams	0	1	2	3	4	5	6	7	8	9	10
Tuition and Fees Costs for In-State Students	0	1	2	3	4	5	6	7	8	9	10
Minority Student Outcomes	0	1	2	3	4	5	6	7	8	9	10
Student Diversity	0	1	2	3	4	5	6	7	8	9	10
Faculty Diversity	0	1	2	3	4	5	6	7	8	9	10
US News and World Report Rankings	0	1	2	3	4	5	6	7	8	9	10
Competitive/External Research Grants Awarded	0	1	2	3	4	5	6	7	8	9	10

How would you describe the political climate in your state as it relates to higher education and public universities?

Very Hostile					Neutral					Very Supportive
-5	-4	-3	-2	-1	0	1	2	3	4	5

Graduation Rates

Much of the policy debate has focused on graduation rates. Please indicate whether you agree or disagree with the following statements.

	Strongly Disagree						Strongly Agree
Graduation rates among at-risk students is an issue largely outside the abilities of the institution to influence.	1	2	3	4	5	6	7
Ultimately, the student is most responsible for his or her own success.	1	2	3	4	5	6	7
Poor preparation in K-12 is to blame for the poor performance of students in public colleges and universities, and not postsecondary institutions.	1	2	3	4	5	6	7
The expectations of lawmakers and state higher education officials regarding graduation rates are unrealistic.	1	2	3	4	5	6	7

State Appropriations and Privatization

As state funding for higher education has declined in recent years, there has been a lot of talk about the potential for some public universities to convert to private not-for profit institutions. Hypothetically, if your university were able to replace all state appropriations with increased revenues from other sources, how likely would you be to support a movement to convert your university to a private, non-profit institution?

Very Unlikely						Very Likely
1	2	3	4	5	6	7

If the state were to cut your institution's appropriations by half, how likely is it that your institution would have to do the following things?

	Very Unlikely						Very Likely
Cut Enrollment	1	2	3	4	5	6	7
Raise Tuition	1	2	3	4	5	6	7
Lower the Quality of Teaching Faculty	1	2	3	4	5	6	7
Fire Faculty/Staff	1	2	3	4	5	6	7
Eliminate Departments/Programs	1	2	3	4	5	6	7
Reduce Extracurricular/Athletic Programs	1	2	3	4	5	6	7
Shut Down	1	2	3	4	5	6	7

In thinking about long-range planning, would you consider the following sources of funds to be more volatile or more stable?

	Very Volatile						Very Stable
State Appropriations	1	2	3	4	5	6	7
Tuition Revenues	1	2	3	4	5	6	7
Research/Grant Funding	1	2	3	4	5	6	7
Private Donations/Endowments	1	2	3	4	5	6	7

Overall, how dependent are public universities (in general, not just your institution) on state governments?

Not Dependent At All										Completely Dependent
0	1	2	3	4	5	6	7	8	9	10

When it comes to workforce training and economic development, how dependent are state governments on public universities?

Not Dependent At All										Completely Dependent
0	1	2	3	4	5	6	7	8	9	10

Please indicate whether you agree or disagree with the following statements:

	Strongly Disagree						Strongly Agree
When people think of our state, they often think of my university.	1	2	3	4	5	6	7
When people think of our city/community, they often think of my university.	1	2	3	4	5	6	7
Serving our state is a fundamental part of our mission that should take precedent over all other goals.	1	2	3	4	5	6	7
Students who want to stay in this geographic region have many other high-quality universities from which to choose	1	2	3	4	5	6	7
Institutions in our state (or multi-institutional systems) must compete against each other for resources from the state government.	1	2	3	4	5	6	7
Universities must be more willing to cater to what students want if they are to remain solvent and relevant in today's society.	1	2	3	4	5	6	7
In order to maintain enrollment and student quality, my institution must be more proactive than others to recruit new students.	1	2	3	4	5	6	7
Deans (or equivalent) at my university have a great deal of discretion in managing the day to day operations of their departments/colleges.	1	2	3	4	5	6	7

How well do you believe individuals in the following organizations understand the challenges that your institution faces?

		Not at all										Completely Understand
Board of Regents		0	1	2	3	4	5	6	7	8	9	10
System Office	N/A	0	1	2	3	4	5	6	7	8	9	10
Coordinating/Governing Board/Planning Agency	N/A	0	1	2	3	4	5	6	7	8	9	10
State Legislature		0	1	2	3	4	5	6	7	8	9	10
Governor's Office		0	1	2	3	4	5	6	7	8	9	10
Regional Accreditation Agencies		0	1	2	3	4	5	6	7	8	9	10
Congress		0	1	2	3	4	5	6	7	8	9	10
Federal Agencies		0	1	2	3	4	5	6	7	8	9	10

How much influence do individuals in the following organizations have over the way you manage your institution?

	No Influence	Complete Control

Board of Regents		0	1	2	3	4	5	6	7	8	9	10
System Office	N/A	0	1	2	3	4	5	6	7	8	9	10
Coordinating/Governing Board/Planning Agency	N/A	0	1	2	3	4	5	6	7	8	9	10
State Legislature		0	1	2	3	4	5	6	7	8	9	10
Governor's Office		0	1	2	3	4	5	6	7	8	9	10
Regional Accreditation Agencies		0	1	2	3	4	5	6	7	8	9	10
Congress		0	1	2	3	4	5	6	7	8	9	10
Federal Agencies		0	1	2	3	4	5	6	7	8	9	10

Please indicate whether you agree or disagree with the following statements:

	Strongly Disagree						Strongly Agree
Generally, state actors do not interfere with the day-to-day operations of my university.	1	2	3	4	5	6	7
The best way for state policymakers to improve the quality of education in public universities is give public universities more latitude and reduce oversight.	1	2	3	4	5	6	7
Regional accreditation agencies provide all of the oversight necessary to appropriately regulate higher education. There is no need for additional oversight from state actors.	1	2	3	4	5	6	7
Tenure protects unproductive faculty more often than it protects those who are targeted for their individual beliefs and activities.	1	2	3	4	5	6	7
Even if tenure is abused sometimes, the fundamental value of academic freedom requires that we protect it at all costs.	1	2	3	4	5	6	7

Performance Information and Internal Management

For the next set of questions, please think about the role that performance information plays at your institution for issues related to internal management. Please indicate whether you agree or disagree with the following statements.

	Strongly Disagree						Strongly Agree
My university uses performance data to track and assess the teaching ability of faculty and instructors within each department.	1	2	3	4	5	6	7
My university uses performance data to track and assess the research productivity of faculty and instructors within each department.	1	2	3	4	5	6	7
Within each department at my university, there are regular schedules and routines for reporting and analyzing performance data.	1	2	3	4	5	6	7
Deans at my university are evaluated based on their performance with respect to specific goals and targets.	1	2	3	4	5	6	7
My university uses performance data to show outside stakeholders and political actors what we produce with revenues we have.	1	2	3	4	5	6	7

My university uses performance data to help identify areas that can be improved or made more efficient.	1 2 3 4 5 6 7
My university uses performance data to help managers oversee employees and hold them and accountability for their performance.	1 2 3 4 5 6 7
My institution uses performance data to improve overall decision making.	1 2 3 4 5 6 7
Overall, managers at my university use performance data on a regular basis.	1 2 3 4 5 6 7

	Strongly Disagree						Strongly Agree
It is difficult for my institution to fund systems (staff, computer databases, etc…) that are dedicated to tracking and analyzing performance data.	1	2	3	4	5	6	7
There are other problems at my institution that we must address before we can worry about designing a new performance data system.	1	2	3	4	5	6	7
Faculty members at my university are distrustful of performance management policies.	1	2	3	4	5	6	7
It has been difficult to figure out which indicators to measure and how to measure them.	1	2	3	4	5	6	7
Many of the things that faculty and staff at my university do are simply not possible to measure quantitatively.	1	2	3	4	5	6	7
I worry that some people at my university will find ways to manipulate performance data in order to make them look better.	1	2	3	4	5	6	7

Time Allocation

Please indicate how frequently you interact with individuals in the following groups by placing a checkmark in the appropriate column:

	Daily	**2-5x/Week**	**Weekly**	**Monthly**	**Quarterly**	**Yearly**	**Never**	**NA**
<u>Within the university</u>								
Your administrative staff	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Provost	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Deans and Directors	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Department Heads	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Business Affairs	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Legal Affairs	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Student Affairs	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Development, Fundraising	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
External Affairs/PR	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Research Office	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Athletics	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Faculty	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Students	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
<u>Outside the university</u>								
Board of Regents	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
System Office	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Coordinating Board	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
State Legislators	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Governor's Office	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Other State Agencies	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Regional Accreditation Org	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Members of Congress	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Federal Agencies	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Alumni	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Grantmaking Foundations	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Local Business Leaders	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Local Community Leaders	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Other Univ. Presidents	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Athletic Orgs (NCAA)	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

General Demographic and Attitudinal Questions

The last few questions concern some basic background information about you. Recall that your responses are confidential, and our analyses will not reveal any individual's responses.

Age:_____ Gender:_____ Race/Ethnicity:_____

How many years have you been at your current university in any capacity? _____
How long have you served as president of your current university? _____
How long have you been president of any university
(including your current university)? _____
Have you ever held elected office (excluding local governments)? _____

Next, we would like to ask you about public sector organizations in general (not restricted to schools or universities). Please indicate whether you agree or disagree with the following statements.

	Strongly Disagree						Strongly Agree
Public organizations become more efficient when they use business practices from the private sector.	1	2	3	4	5	6	7
Public organizations become more efficient when they have to	1	2	3	4	5	6	7

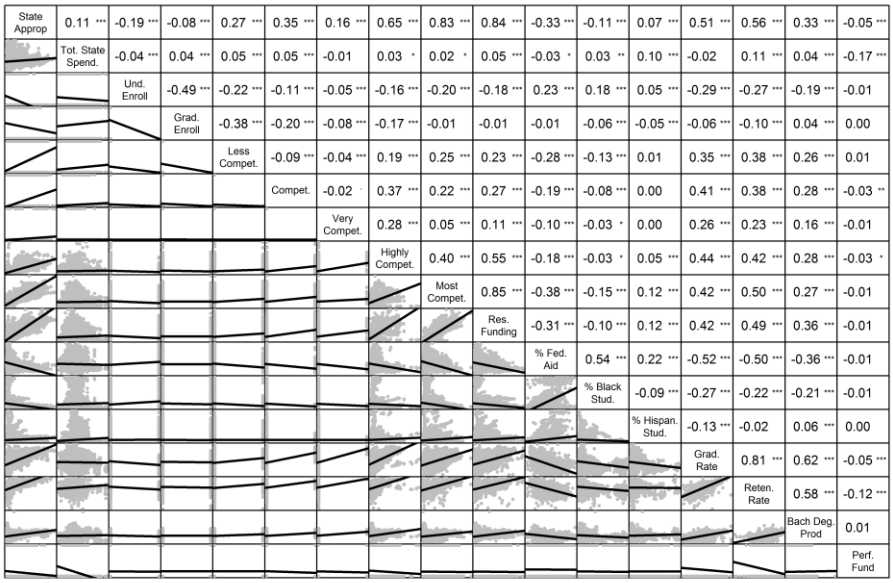
compete with the private sector.	
Managers of public organizations should be held accountable for performance goals and benchmarks.	1 2 3 4 5 6 7
Managers of public organizations should be given more discretion to make decisions regarding their agencies.	1 2 3 4 5 6 7
Government today has too much "red tape" to be as efficient as the private sector.	1 2 3 4 5 6 7
Without government regulation, free markets often produce inequity.	1 2 3 4 5 6 7
Many of the things that government agencies do are difficult to measure quantitatively.	1 2 3 4 5 6 7
Recent cutbacks in the public sector threaten the quality of government services.	1 2 3 4 5 6 7
Many government agencies are more efficient than people give them credit for.	1 2 3 4 5 6 7

On a scale of political ideology, individuals can be arranged from strongly liberal to strongly conservative. Which of the following categories best describes your views?

___Very liberal ___Middle of the road ___Slightly conservative
___Slightly liberal ___Very conservative

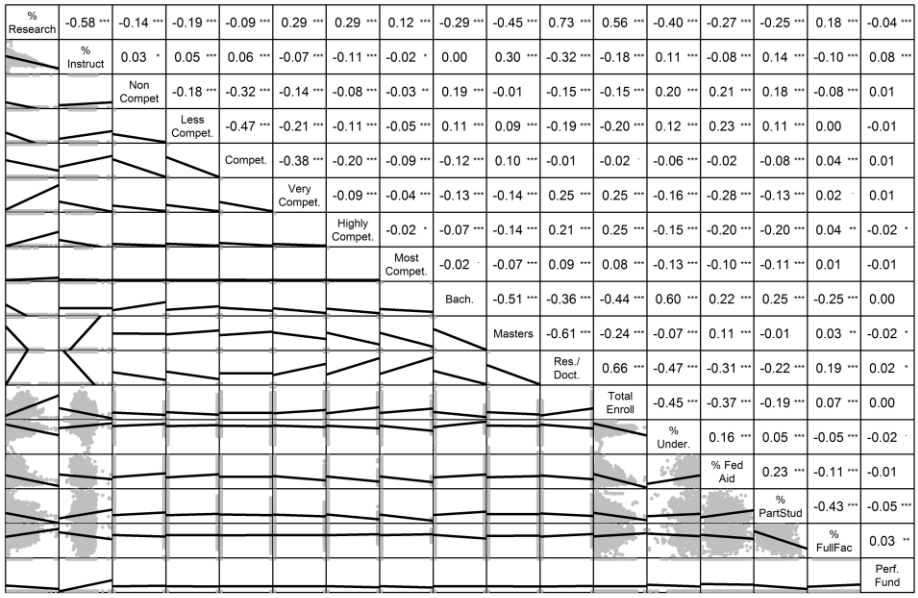
Appendix B: Correlation Matrices for Chapter 3

Correlation Matrix For Stage One



*** p>.001, ** p>.01, * p>.05

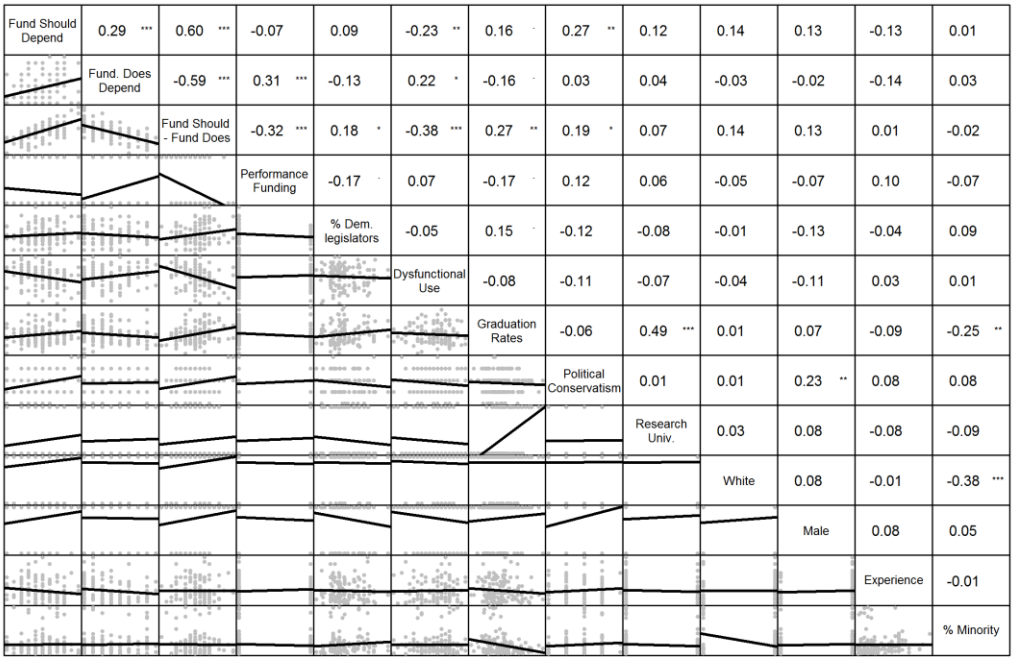
Correlation Matrix For Stage Two



*** p>.001, ** p>.01, * p>.05

Appendix C: Correlation Matrix for Chapter 4

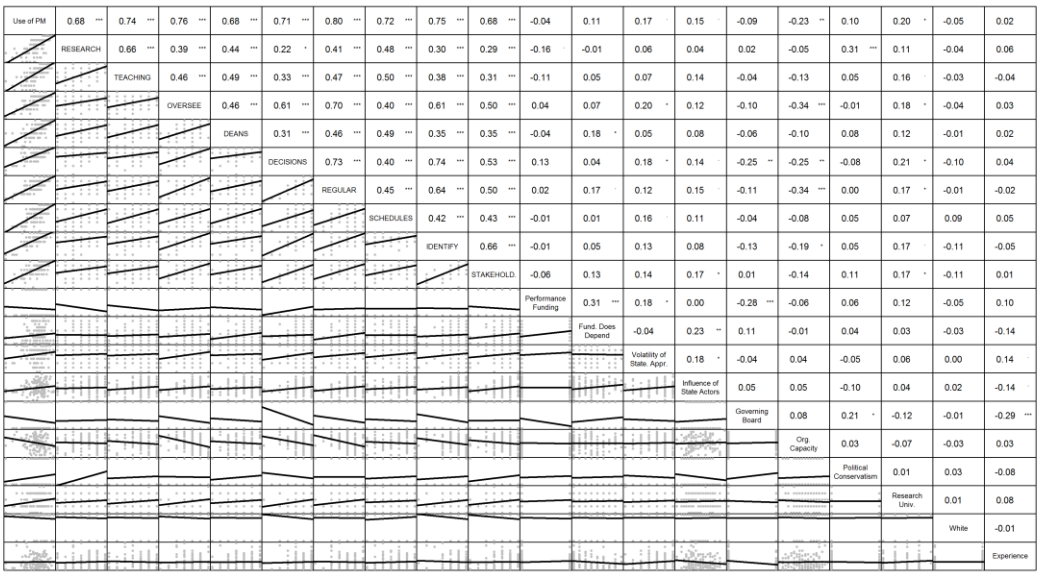
Correlation Matrix: Chapter 4



*** p<.001, ** p<.01, * p<.05

Appendix D: Correlation Matrix for Chapter 5

Correlation Matrix: Chapter 5



*** p<.001, ** p<.01, * p<.05