

# **Governance and Organizational Effectiveness: Toward a Theory of Government Performance**

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# INTRODUCTION<sup>1</sup>

The idea that performance - producing good results - should be the ultimate test of how well governments are fulfilling their obligations to citizens and their representatives remains robust despite the mixed results of nearly two decades of systematic effort to promote it in the United States and elsewhere (Pollitt and Bouckaert 2004, Forbes, Hill, and Lynn 2006). It is hard to disagree that “[p]ublic officials must be able to better ensure our citizens that the government can effectively account for where their tax dollars go and how they are used” (USGAO 1992, 1). As a savvy public manager once put it: "Performance—the ability to deliver [goods and services] against multiple odds and to deliver quickly and consistently—is what matters" if public managers are to make government work for the people (Chase and Reveal 1983, 178).

Critics of what Beryl Radin (2006) has called “the performance movement” have argued that performance measurement and management are often naïve and unsophisticated and spawn performance paradoxes: efforts to improve performance that in fact compromise or undermine it (Radin 2006, Van Thiel 2002). A focus on outputs, for example, has led to reduced emphasis on important outcomes (Pollitt 2000, Pollitt and Bouckaert 2004). Enforcement of performance measurement protocols has undermined professionalism and the adaptability of service delivery to local circumstances (Radin 2006). Efforts to eliminate principal-agent problems through performance agreements have made such problems worse (Talbot 2004).

Performance paradoxes persist in part because policy makers cannot refer to widely-accepted theories of how performance is actually “caused” in the complex, loosely-coupled, multi-level administrative systems of advanced, globalized democracies. Research on performance measurement and management all too often leaves unexamined the mediating operations that take place within administrative systems. Even when these operations are

identified, as they often are in actual performance measurement systems, the interrelationships between specific operational measures, criteria and indicators which are employed at various levels of administration are usually undefined.<sup>2</sup>

The objective of this paper is to sketch a theory of government performance that traces its causes to hierarchical interrelationships among policy makers, public managers, and service delivery workers. Our point of departure is a study (Forbes, Hill and Lynn 2006, hereafter FHL) in which the authors and Carolyn J. Hill use an analytic framework termed a “logic of governance” to reveal how researchers are trying to understand the factors that contribute to the observed performance of policies, programs and agencies. Based on their analysis of nearly one thousand published studies concerned with multi-level administrative relationships, FHL conclude that, while the determinants of performance are multifarious, they tend to reflect the operations of a constitutionally-ordered chain of delegation linking citizens and policy makers to service delivery and its consequences.

The logic of governance (hereafter LOG) did not, however, systematically conceptualize organizational effectiveness at intermediate levels of administration. If the literature on organizations is to be taken seriously, managerial and service delivery organizations cannot be assumed to be oriented toward overall administrative system performance but may have goals of their own. In this paper, we reanalyze the FHL studies using a framework that integrates concepts from organization theory—specifically, indicators of organizational effectiveness—into the LOG. In that way we are able to further illuminate the character and importance of organizational behavior in mediating the relationships between public policy and its consequences.

The integrated framework has two advantages over its predecessor. First, it helps

overcome tendencies, especially in New Public Management research, to assume, usually implicitly, that administrative systems and the organizations that comprise them are synchronized toward achieving the same goals. Second, it clarifies and enriches organizational effectiveness models by identifying the political constraints on organizations and their managers in public administrative systems.<sup>3</sup>

Based on our reanalysis of the empirical literature, we propose several hypotheses concerning the general determination of governmental performance, hypotheses that, taken together, we term a “core model”:

- public management is governed primarily by the structures incorporated in public policies;
- delegated and *de facto* discretion allow for initiative in managerial direction such that the outputs of service delivery processes are influenced primarily by public policies as mediated by managerial direction, specifically by managerial use of administrative structures and processes to shape the links between policy and service delivery);
- service delivery processes may be determined directly by public policies *if* policies are designed so as to be, in effect, self-executing; and
- the outcomes of public policies are produced by the outputs of service delivery processes.

The discussion proceeds as follows. The next section describes the creation of the integrated analytic framework used in our reanalysis of the LOG database. Then we discuss the methods used in the reanalysis. This is followed by a description and critical analysis of the patterns of causality we find in the empirical literature. We then derive a general theory of administrative system performance, which is depicted both graphically and algebraically. A

discussion of the implications of this kind of theorizing for the study of government performance concludes the paper.

## **GOVERNANCE AND ORGANIZATIONAL EFFECTIVENESS**

Reflecting the spirit of the performance movement, a strain of academic research (discussed further below) adopts a “policies cause outcomes” logic. While the production of outcomes may be acknowledged to be a complex business, this complexity is not incorporated into empirical research designs. The problem, as Carolyn Heinrich puts it, is that “[s]imply knowing that they have achieved or failed to achieve the target objectives or standards is not likely to aid public managers in understanding *why* performance is at the level it is or *how* managers can effect change” (Heinrich 2003, 26).

To avoid this “black box” problem, other scholars take a less reductive view of performance and its production. Christopher Pollitt’s (2000) criteria of public service improvement include, for example, not only budgetary savings, improved efficiency, and greater effectiveness but also intermediate outcomes such as improved administrative processes and increases in the overall capacity, flexibility, and resilience of the administrative system as a whole.<sup>4</sup> It is the spirit of the more deconstructed approaches to public sector performance that we attempt to capture in our theory by clarifying principal-agent relationships in multi-level administrative systems.

Earlier research on governance by Lynn, Heinrich and Hill (2001) argues that theorizing about multi-level governance is best approached within an analytic framework that identifies the primary elements of governance which theories ought to address. Their framework, termed a “logic of governance,” is founded on constitutionally-sanctioned chains of delegation that create

and link institutions and organizations at various levels of government as well as their private sector agents. This analytic framework can be used to enrich governance scholarship by suggesting how interrelationships among hierarchical institutions might be incorporated into causal explanations of public service outputs and outcomes.

As subsequent research has shown (Forbes and Lynn 2005, Hill and Lynn 2005), this framework can also be used to synthesize the findings in widely-dispersed but substantively overlapping literatures from various disciplines, fields, and sub-fields. This type of analytic synthesis has the potential to reveal synoptic pictures of what is being learned about governance as well as to facilitate inferences about the effect of public management on performance in individual studies or specialized literatures (e.g. Forbes, Hill and Lynn forthcoming 2007).<sup>5</sup>

## **A Logic of Governance**<sup>6</sup>

To further empirical analysis, public sector governance is defined by Lynn, Heinrich and Hill (2001, 7) as “regimes of laws, rules, judicial decisions, and administrative practices that constrain, prescribe, and enable the provision of publicly supported goods and services” through formal and informal relationships with agencies in the public and private sectors. More specifically, governance is conceptualized as a system of hierarchically-ordered institutions, described in Appendix 1, which has the effect of balancing administrative discretion with accountability to lawful authority. Within that framework, public management is defined (Lynn, Heinrich and Hill 2001, 7) as “the behavior and contributions to governmental performance of actors [in] managerial roles.”

The theoretical foundations for the LOG are found in the literature on positive political economy and feature the processes of public choice, delegation and control by which hierarchically-ordered, multi-level administrative systems are created and held accountable

(Lynn, Heinrich and Hill 2001). The LOG depicts how multiple layers of governing institutions linking public policies, public management, and service delivery, which constitutes an administrative system of nested principal-agent relationships, might influence public sector outcomes.

Despite their differences, all theories of public governance, both positive and normative, incorporate conceptions of principal-agent relationships. Theories emphasizing a “democratic ethos” postulate official consultation with and empowerment of citizens (deLeon and deLeon 2002). Theories emphasizing incentives, contracting and quasi-markets (Hughes 2003) hold private organizations accountable to the public agencies that contract with them (Kettl 2002, Salamon 2002). For theories featuring the centrality to policy implementation of networks and collaboration, trust and shared understandings among officials and collaborators are emphasized. Our theory emphasizes that sovereign power is possessed by the people who have created the constitutionally-authorized chain of delegation that is elaborated by representative and administrative institutions and their agents. The merits of this multi-level institutional approach have been noted by, for example, Kiser and Ostrom (1982), Toonen (1998), Lupia and McCubbins (2000), and Forbes, Hill, and Lynn (2005).

While this approach recognizes that principal-agent relationships exist in a governance system, it acknowledges that they are multi-layered and allows for the possibility that agents themselves possess resources to act as principals in some situations. While managers may be constrained by public policy mandates, for example, they may also have sufficient discretion to use process or structural resources available to them to shape how policy is implemented (for example, by networking with other agencies).<sup>7</sup>

The LOG identifies a large variety of factors, detailed in Appendix 2, which may be

operative at different levels of governance without, however, specifying how the casual connections between these factors operate. The analysis in this paper uses the concept of organizational effectiveness to organize this list of variable categories into those kinds of factors that seem to be generally operative at different governance levels and that, in turn, directly or indirectly influence system performance. This approach clarifies how principal-agent relationships operate in a system of governance where structures and processes both constrain and enable agents to act as principals as policy implementation moves down the chain of delegation.

### **Bringing In Organizational Effectiveness**

The notion that “system performance” and “organizational effectiveness” are related, if not synonymous, is popular among both organization and public management scholars (Scott and Davis 2007, Selden and Sowa 2004). Performance is perhaps the narrower of the two concepts, typically focusing on the outputs and outcomes of a program or policy. Organizational effectiveness is a broader notion that is concerned with the dynamics among principals and agents within and between the organizations comprising the system. Given the potential relationship between the two concepts, we draw on the organizational effectiveness literature to create our integrated analytic framework.

One difficulty with the concept of organizational effectiveness is that effectiveness models in the organization literature often lack theoretical coherence and are either redundant or in conflict with one another (see Hall 1999 for a review). For example, Quinn and Rorbaugh’s (1983) competing values model identifies seventeen effectiveness indicators, including concepts such as productivity, planning and goal setting, utilization of environment, evaluations by external entities, value of human resources, and stability. This model is unsatisfactory both for its

lack of parsimony and because the LOG framework already situates these types of variables in a coherent hierarchical framework. Tompkins (2005) applies the four most common models of organizational effectiveness—the human relations, internal process, rational goal and open systems models—to public management. While comprehensive, Tompkins’s analysis lacks the kind of focus that will assist the study of administrative system performance.

In contrast to such analyses, Richard Scott’s (2001) organizational effectiveness indicators have the parsimony and coherence that resonate well with the LOG. Before any type of performance evaluation can occur, Scott argues, effectiveness indicators must be chosen that identify the criteria by which organizational performance is to be conceptualized. According to Scott, three types of general indicators of effectiveness can be identified in the literature:

*outcomes, processes, and structures* (Donabedian 1966; Suchman 1967; Scott 1977, 2001, Hall 1999).

Definitions of Scott’s effectiveness indicators are summarized in Table 1, which includes examples cited by Scott as well as examples from the logic of governance research.

**[Table 1 about here]**

- *Outcome indicators* purport to identify changes in an individual or organization that have been the object of some kind of intervention, service or regulation. Outcome indicators are problematic in public organizations, however, because such organizations are often unable to control their inputs, to control other factors that affect the outcome indicator, or to buffer themselves from external actors with diverse views about which indicators are appropriate. Thus it is difficult to determine whether investigator-measured outcomes are in fact operative and comparable across organizations (Scott 2003).
- *Process indicators* measure the quantity or quality of work, that is, effort or outputs.

Scott notes that process indicators are often more valid than outcome indicators because they are in fact operative, that is, they reflect the actual objectives of organizational actors. For organizations facing strong institutional pressures, for example, process indicators may well be the sought-after result. Studies of managerial or service delivery worker compliance with policies made at higher levels are particularly interesting in this regard. When viewed as an indicator of organizational effectiveness, “compliance with higher level policy or procedural mandates” is likely to be influential down the chain of delegation to the outcomes level.

- *Structural indicators* focus on the production function rather than the outputs or outcomes of the organization. Scott notes that structural measures are twice removed from outcomes in that they only measure the capacity to work, not the product of the work itself.

Structures can be conceived as both enabling *and* constraining effectiveness when, for example, they take the form of rules and mandates. Identifying the components of capacity assists in discovering the causes of organizational effectiveness by highlighting how structures support organizational operations and ultimately foster or inhibit effectiveness (Ingraham and Donahue 2000). As with process indicators, structural effectiveness often reflects the objectives of organizational actors interested in expanding or directing service delivery capacity.

The autonomy of an agency to make its own budgeting or operational decisions is an example of the dual role of structures. A comparative study of the way in which legislative rules in different countries affects devolution of budgeting decisions to public health agency departments treats managers as agents who carry out budgeting decisions according to legislative decree. Another study might treat the same structure (agency budgeting autonomy) as an independent variable with effects on client health outcomes. In this case, managers are both agents and principals, constrained by legislated budget rules but enabled, for example, to direct

street-level employees to classify clients in an ambiguous manner that conforms to budget rules without reducing services for those who are hard-to-treat.

Our approach is also consistent with Herbert Simon's concept of an organizational goal, which he defines as the set of value premises that is the basis of managerial decisions (Simon 1964). In the case of public organizations, this set comprises the requirements imposed by formal authority: legislative enactments, executive orders, and judicial rulings. A course of action that satisfies the set of constraints is considered to be feasible. Managers who select a course of action that satisfies only a subset of these constraints are vulnerable to political reprisals and diminished discretion. While constraints typically constitute tests of feasibility, they may also induce innovation or creative interpretation by public managers depending on their personal preferences and resources. Thus while indicators of managerial effectiveness may be expected to reflect the constraints which determine feasible actions, there is opportunity for the exercise of managerial discretion that determines the precise form that organizational goal achievement may take.

## **METHODS AND DATA**

Similar to previous studies using the LOG (Hill and Lynn 2005, Forbes and Lynn 2005, Forbes, Hill and Lynn 2006, Forbes, Hill and Lynn forthcoming 2007), one motivation for this study is to discover broader modeling patterns in the public management literature than are discernible from viewing individual studies in isolation, this time using the integrated logic-of-governance framework. As the majority of studies in the full database employ dependent variables at these levels, we have over six hundred empirical studies for analysis in this study.<sup>8</sup> We assign the independent and dependent variables in the LOG database at the public policy,

management, service delivery, and output/outcome levels in these studies to one of Scott's three categories of organizational effectiveness indicators.

This method of analysis is not unprecedented. Sowa, Selden, and Sandfort (2004) incorporate structures, processes, and outcomes into their "multidimensional, integrated model of nonprofit effectiveness" (MIMNOE). As does the LOG, the MIMNOE model distinguishes between effectiveness at the management and program levels. Within each of those levels, effectiveness is further broken down into capacity measures (structure and processes) and outcomes.

The assignment process proceeded as follows. To guide our coding, we referred to Scott's (2003) definitions and examples of each indicator and first identified where the most common types of dependent variables in the LOG database (for example, red tape, health outcomes, number of clients served) fit into Scott's typology. We then coded all of the dependent variables using Scott's effectiveness indicators, deliberating when necessary about ambiguous variables until coding agreement was reached. Once the first round of coding was complete, we separately reviewed the coding scheme for consistency and accuracy and completed a second round of revised coding until inter-coder agreement on all variables was reached again. The independent variables were coded in the same manner, although the first round of coding was done by a graduate student research assistant in collaboration with the first author.

Consider the following example. A study by Emmy Sluijs and her colleagues (2001) investigates quality management in the health systems of the Netherlands and Finland. Their model examines whether the level of government that is entrusted with quality management affects local and regional managerial implementation of quality management programs. Under the original LOG framework, the independent variable is labeled as a c-level policy variable

designating the implementing “level of government,” and the dependent variable is labeled as a d-level managerial strategy. Using Scott’s effectiveness indicators, we re-coded the policy rule about the level of government in charge of quality management as a structural indicator, and, because implementation reflects effort rather than effect on clients, the dependent variable was re-coded as a process indicator.

A number of issues arose in the course of coding the variables in our database using Scott’s indicators. First, there are multiple ways to operationalize process. Scott (2003, 366) argues that process measures of effectiveness answer two types of questions, “What did you do?” and “How well did you do it?” These two questions are answered by public management researchers using three distinct types of processes, which we term *institutional processes*, *choice/behavioral processes*, and *processes-as-outputs*.

Answers to the question “What did you do?” can be measured by process indicators that represent either institutions or decision making. Institutional measures include, for example, collaboration between agencies, network relationships, and cooperation (Agranoff and McGuire 1998, Jennings 1994). Choice/behavioral measures include decisions by managers, front-line workers, and clients; examples include the degree of civil servant compliance (Bigelow and Stone 1995, Barker and Wilson 1997, Franklin 2000, Hood 2001), managers’ decisions about how to allocate time, personnel, and material resources (Garmoran and Dreeben 1996) and duration of client participation in a WIC program (Ahluwalia et al 1998).

Answers to the question “How well did you do it?” take the form of process-as-output measures of effectiveness. Such measures are not restricted to “final” outputs, however, such as number of clients processed by a social service agency or the rate of medication error by nurses. Such measures also include concepts such as managerial strategies and the implementation

procedures of agency programs, which are mediating activities contributing to the production of outputs. For example, coordination of care at the service delivery level is presumably undertaken to improve client health/social outcomes rather than as a final output or end in itself.

Another issue concerned the coding of efficiency variables. In their critique of goal-attainment models of effectiveness, Hannan and Freeman point out that most studies of organizational performance are meaningless if they ignore cost constraints, since most organizations (and especially public organizations) have limited control over their revenues. They argue that it is only the rare organization that does not face such constraints and “that profit[s] from a distinction between efficiency and effectiveness” (Hannan and Freeman 1977, 110). For the purposes of this study, therefore, efficiency is treated as a process rather than outcome indicator of effectiveness (Katz and Kahn 1966).

Yet a third issue arose in the coding of outputs. As noted earlier, *output* indicators answer Scott’s question “How well did you do it?” Examples of outputs that fall under process indicators of effectiveness include the number of clients served and number of vaccines given (Shi 1996, Garg et al 1999, Szilagyi et al 2000). The majority of dependent variable outputs-as-process indicators are found at the service delivery level of the LOG. This pattern is consistent among studies that employ policy making and/or management level independent variables. Most studies that use process measures of effectiveness at the service delivery level are coded under the work/treatment/intervention, use-of-resources, and/or performance sub-categories in the original LOG. At the work/treatment/intervention service delivery level, for example, the dependent variables are most often quantitative measures of outputs, such as average length of stay in the hospital (Udom and Betley 1998), number of merger cases filed by the US Department of Justice antitrust division (Vachris 1996), rates of patient placement on waiting

lists for renal transplant (Garg et al 1999), and the number of broadcast inspections and the number of discrepancy notices by the US Federal Communication Commission (Carpenter 1996).

A final point concerns how use of Scott's typology reveals the desirability of modifying the original LOG coding scheme in future research. Most of what we now call output variables at the service delivery level (e-level) are more appropriately coded at the output/outcome level (f-level). Further, locating outputs and outcomes at the same level, as the original logic-of-governance coding scheme does, tends to obscure the fact that outputs logically precede outcomes. For example, indicators of organizational performance such as student test scores (Meier and Bohte 2000) and intergenerational family dissolution (Brandon and Fisher 2001) are output indicators that causally precede impacts or outcomes (for example, labor market success and child wellbeing, respectively). Modifications in the original LOG coding scheme to incorporate these two insights will clarify the findings from logic-of-governance research without altering them, as they will still reflect hierarchical causality.

A few caveats are in order. First, the "correct" way to characterize a study's variables using Scott's indicators (or any coding scheme) may be ambiguous: does "integration of mental health delivery" refer to a process or an outcome? To the extent possible, our coding reflects the stated or implied meanings in each study. Second, we do not assess the quality of the research designs in the studies included in our database. Hannan and Freeman (1977) point out potential methodological problems with studies employing multiple levels of analysis, but our interest here is more theoretical.<sup>9</sup> We believe it is a necessary first step to determine how public sector performance is being studied and whether research designs are theoretically plausible before attempting to critique individual studies. Finally, we do not address the time horizons employed

by the studies in our dataset, which can influence measures of effectiveness.

## **TOWARD A THEORY OF GOVERNMENT PERFORMANCE**

The results of our coding are summarized in Table 2. Consistent with Scott's intuition that process indicators are one step and structural indicators two steps removed from outcomes, we find that, in published research, structural indicators are usually employed to explain process indicators and processes are usually employed to explain outcomes.

**[Table 2 about here]**

The patterns in Table 2 provide useful, if not definitive, insights into governance relationships. First, researchers primarily use policy-making structures (at the c-level) to explain structural and process indicators at the management level. Policy-making structures are, however, also commonly used to explain service delivery (e-level) process indicators without including the mediating effects of management structures and processes. Management (d-level) *independent* variables are, as with management dependent variables, usually structural or process indicators, and they are most frequently used to explain service-delivery process indicators or individual/societal-level outputs/outcomes (at the f-level).

Figure 1 and Figure 2 represent these empirical patterns. All patterns comprising two percent or more of the studies in the dataset are represented in the figures.<sup>10</sup> The thickness of the arrows represents the proportion of studies that model a particular relationship. Figure 1 represents studies that do not skip levels of analysis. Figure 2 shows the studies that model relationships between non-adjacent levels. The solid lines between non-adjacent levels (e.g. level c and e) represent studies that also include the mediating variables in their research designs (e.g. d-level variables for c to e studies), while the dotted lines represent studies that omit mediating

levels of analysis entirely in their designs.

**[Figures 1 and 2 about here]**

When we look only at the studies that model relationships between non-adjacent levels in Figure 2, two notable patterns are depicted. First, patterns among the *dependent* variables at different levels of analysis do not vary by the level of the independent variable in the study; dependent variables constituting process indicators predominate in all service delivery studies, and dependent variables constituting outcome indicators, not surprisingly, predominate at the output/outcome level of governance. Second, these studies fail to account for the possibility of mediating effects of management and/or service delivery on outputs/outcomes, omissions that may well be theoretically unwarranted. These patterns imply that investigators have convergent notions of what kinds of indicators they are trying to explain but not in the kinds of theories used to do the explaining.<sup>11</sup>

### **The Influence of Policy Making on Management**

Calvert, McCubbins, and Weingast (1989, 590) argue that “concentrating on acts of decision-making rather than on influences over decision-making is a kind of myopia that can lead to false conclusions about where the responsibilities for policies lie.” As Table 2 shows, structural indicators of effectiveness predominate in studies that have public policy making (c-level) independent variables and management (d-level) dependent variables. Almost all policy-making (c-level) independent variables are structures. Further, almost two-thirds of the structural dependent variables are “administrative structures” at the management level, as defined in the original logic-of-governance coding scheme. Among studies that use policy making structures to explain management structures, the majority employ structures related to mandated policy designs or type of organizational ownership (such as public or private).

The implication of these patterns is the basis for the top-level of our theory of public sector performance, which is depicted in Figure 3 and expressed as Hypothesis 1, and postulates policy makers as principals and the public managers whose behavior is expected to fulfill the goals of public policies as agents.

**H1:** Public management is governed primarily by the structures incorporated in public policies.

### **The Influence of Management on Service Delivery**

Most studies of the determinants of managerial effectiveness, such as those discussed in the preceding section, “stop” at that level. Only sixteen percent of these studies examine dependent variables at both the management and either the service delivery or output/outcome levels. In one of these, Hird (1990) examines how the state’s policies requiring environmental clean-up affect both the number of National Priority List (NPL) sites created by public managers and the pace of Superfund site cleanup, a process variable at the service delivery level. More typical is Gilardi’s (2002) examination of how the number of veto players in the government, a policy structure, affects the level of independence of regulatory agencies, a management structure, which does not then go on to consider the impact of regulatory independence on regulatory outputs (e.g., intensity and patterns of enforcement) and their consequences.

Many investigators may have no interest in taking this next step or may not have access to data that would permit them to do so. However, not taking this next step, even in a speculative way, limits the more general search to fully understand the causal chain of public sector performance. It is here that the theory of performance we put forward in this paper can be most useful. Examining regulatory independence as an independent variable at the management level would acknowledge the multi-layered nature of principal agent relationships in the governance system. In this case, managers would be the (constrained) principals who could use structures

and processes under their control to affect patterns of enforcement.

One of the most striking patterns in the dataset is that sixty percent of studies that use policy making variables to model service delivery process indicators omit any systematic consideration of the mediating effects of management from the analysis.<sup>12</sup> For example, O'Brien (1992) examines the extent to which city manager or elected mayor forms of local government tend to minimize labor costs without considering the possible mediating impact of management under both forms on the results. The reasons for such omission are usually not made clear and, in any event, may be entirely legitimate. In general, however, failure to account for the power of managers to also act as principals may affect the usefulness or validity of study findings, a point to which we shall return below.

Unlike the policy making level, indicators of effectiveness at the management level are divided more evenly between structures and processes. Structures comprise just over half and processes over one-third of these effectiveness indicators. Whether it is managerial decisions on police and road expenditures (Turnbull and Djoundourian 1993), developing and implementing drug-testing policies (Sabet and Klingner 1993), resource allocation decisions of Job Training Partnership Act agencies to service providers and performance standards systems (Heinrich 1999), or coordination of employment and training activities (Jennings 1994), these studies imply that the effectiveness of managerial processes contributes in significant ways to the ultimate success of public policies and programs. For this reason, we postulate that both structural and process indicators of managerial effectiveness are determinants of public sector performance, as summarized in the following hypothesis:<sup>13</sup>

**H2a:** Delegated and *de facto* discretion allow for managerial initiative such that the outputs of service delivery processes are determined primarily by public policies *as*

*mediated by* managerial direction, in particular, managerial use of administrative structures and processes to shape the links between policy and service delivery.

## **Self-Enforcing Policies**

There are policies, however, which restrict the extent of managerial discretion and prescribe exactly how the service is to be performed. As Calvert, McCubbins, and Weingast (1989) note, “in those areas in which they care the most, politicians will expend greater effort and resources in reducing the uncertainty that affords bureaucrats the opportunity for discretion” (590). In such instances, the causal relationship from public policy structures and service delivery processes may be direct, reflected by the dotted line in Figure 3.<sup>14</sup> An example of this type of casual relationship would be when laws prescribe how front-line workers are to bill patients for mental health services or set rules for filing claims. Such possibilities suggest the following hypothesis:

**H2b:** Service delivery processes may be determined directly by public policies *if* policies are designed so as to be, in effect, self-executing.

## **Service Delivery and Performance**

One problematic pattern in the empirical studies is the tendency to use management-level structures and/or processes to explain changes in societal outcomes while omitting intervening service delivery variables. Over seventy percent of these studies failed to include a service delivery independent variable.

We regard this logic as theoretically and empirically suspect for two reasons. First, variable omissions may mean that estimates of the relationship between management and outcomes are biased if the omitted variables are correlated *both* with the independent variable of interest (here management variables) *and* with the dependent variable (here, outcomes). If, in the preceding example, teacher implementation is correlated both with principals’ policies and with

student test scores, the results on the effect of the principals' policies will be biased. For example, a study that examines how a policy chosen by a school principal affects student test scores but fails to consider how teacher implementation of the policy mediates the effect of the policy is incomplete (Arum 1996, Hallinger and Heck 1996). Here, classroom teachers are not mere agents of principals but principals (in the principal-agent sense) as well. Second, the omission of mediating variables may result in an incomplete account of how performance is determined. A management coefficient may be statistically significant in predicting an outcome but explain only a small fraction of the variation in that outcome.

Accordingly, our hypothesis, reflecting the logical and empirical primacy of outputs, is:

**H3:** The outcomes of public policies are produced by the outputs of service delivery processes.

## **The Core Model**

The patterns of shortcomings in prior empirical research noted above aid us in creating our core model of public sector performance, which is depicted in Figure 3 and summarized in the four hypotheses discussed above: (1) public agency management is governed primarily by the structures incorporated in public policies; (2) service delivery processes are most commonly determined by public policies as mediated by public management structures and processes; (3) governmental outputs may also be determined directly by public policies if policies are structured so as to be, in effect, self-executing; and (4) the outcomes of public policies are determined by the outputs of service delivery processes.

**[Figure 3 about here]**

To create this model, we evaluated the empirical patterns in Figure 1 in relation to the LOG to identify gaps in the way governance researchers are modeling causal relationships

between levels of governance. While acknowledging the insights to be gained from analyzing the empirical literature, especially the patterns in the uses of effectiveness indicators, we have attempted to overcome significant conceptual shortcomings in that literature, especially the often unwarranted tendency to omit levels of analysis altogether, in order to create a core theory, or causal account, of administrative system performance. This parsimonious account can serve as a basis for more fully-specified and diverse hypotheses concerning various aspects of that performance. The organizational effectiveness indicators suggest ways in which organizational goals—for example, process effectiveness as an end in itself—may influence the translation of policy mandates into administrative system results.

The core model may be expressed algebraically as follows:

$$(1) \quad M = f(P)$$

$$(2) \quad Q = f(P, M)$$

$$(3) \quad O = f(Q)$$

where:

O = the outcomes of public policies;

Q = service delivery processes (outputs), an indicator of service delivery effectiveness;

M = management structures and processes, indicators of managerial effectiveness; and

P = public policy structures, an indicator of public policy effectiveness.

This model does not purport to encompass all possible complexities of democratic governance. First, accountability is multi-dimensional and multi-directional; environmental influences exogenous to the core model may at times impinge on choices endogenous to the model. Second, in some contexts, interdependencies may be bi-directional; "organizational cultures and sub-cultures" at the service delivery level, for example, may influence higher-level

managerial and policy maker behavior. Third, there may be complex interactions within levels, within organizations or as a consequence of networks and collaborations, which influence between-level interactions. Finally, public organizations may have more complex missions, have quango-like characteristics, and be "hollow" or "virtual," in effect, little more than managers of contractual relationships with other levels of government and the private (proprietary and nonprofit) sector.

We argue, however, that these kinds of considerations should be viewed as constituting variants of the core model that, in the general case, are unlikely to nullify its basic causal logic. This is, of course, an empirical question. The influence on governmental performance of external pressures, organizational cultures, collaborations, and lengthening chains of delegation relative to the influence of hierarchical structures and processes and organizational management can in principle be investigated using elaborated versions of the core model that allow for testing the relative effects of various configurations of influences.

## **THEORY IN THE ANALYSIS OF GOVERNMENT PERFORMANCE**

The core model contributes to public management scholarship in several ways. First, it emphasizes both external policy making and internal managerial and service-delivery factors that affect government outputs. Unlike other synoptic approaches to public sector performance, however, our model organizes these external and internal factors into a coherent causal account. Moynihan and Pandey (2004) suggest, for example, that organizational culture, goal clarity, decentralization of decision-making authority, and restrictions on managers' authority to reorganize units are likely to increase organizational effectiveness without, however, suggesting how these factors interact within a governance framework.

Second, the theory locates hypotheses about performance and effectiveness at appropriate levels of governance, something organization theory rarely attempts (Selden and Sowa 2004). Rainey and Steinbauer (1999) suggest, for example, that the most important factors influencing public sector organizational effectiveness are relations with external authorities and stakeholders, autonomy, leadership, professionalism, and the motivations of participants. Our theory suggests, in addition, that authorities external to the administrative system will enable and constrain managerial effectiveness and that the influence of leadership, professionalism, and motivation on performance originate at the management and service delivery levels.

Third, the theory explicitly recognizes the importance of managerial capacity and other mediating influences on outputs and outcomes. We noted above, for example, that the study of public management is concerned with the discretionary behavior of those in managerial roles. The need for such discretion arises when there has been an explicit delegation by an authoritative policy maker, when ambiguity in policy mandates necessitates managerial interpretation, and when applying rules and standards in particular categories of cases requires judgment. But discretion as a contributor to managerial capacity cannot be understood apart from the institutional environment that constrains and enables it.

Finally, the theory is a bulwark against the risk of public management scholars falling prey to the New Public Management emphasis on policies-produce-outcomes logic without sufficient attention to mediating structures and capacities. While outcomes are ultimately the major test of democratic governance, they cannot be understood without attention to structures and processes occurring at the management and service-delivery level or the outputs that they produce. Even when individual study limitations do not allow causal insights across all levels of governance, the theory can inform researchers, practitioners, and students alike on how to

synthesize disparate findings on the same substantive policy topic across multiple levels of governance.

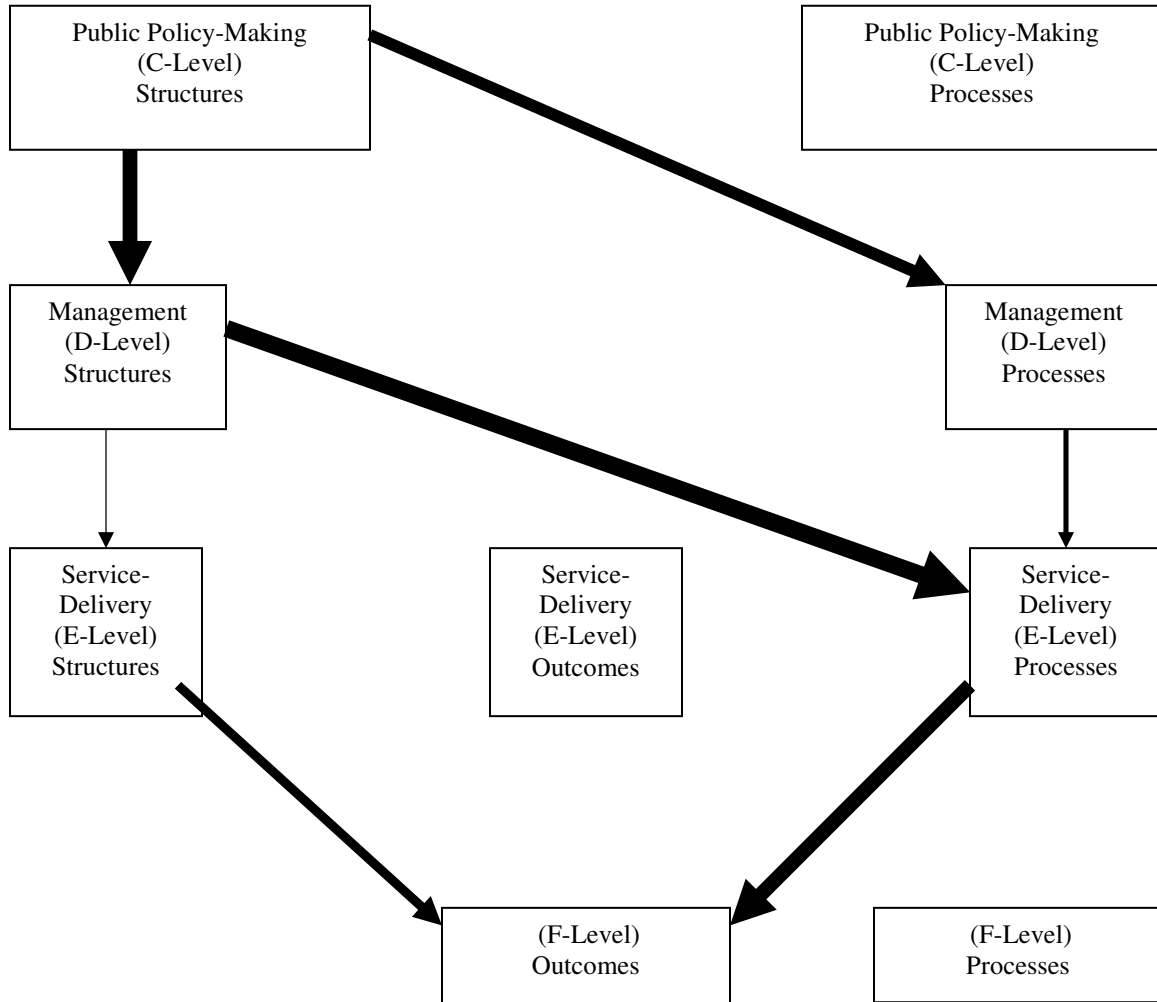
**Table 1 - Organizational Effectiveness Indicators (Scott 2003)**

Indicator	Definition	Scott's Examples	Logic of Gov't. Examples
<b>Structures</b>	Indicators “based on organizational features or participant characteristics presumed to have an impact on organizational effectiveness” (Scott 2003, 367).	<ol style="list-style-type: none"> <li>1. adequacy of hospital facilities and equipment</li> <li>2. types of degrees among teachers in schools</li> <li>3. qualifications of medical staff</li> <li>4. number of volumes in school libraries</li> </ol>	<ol style="list-style-type: none"> <li>1. red tape</li> <li>2. independent auditors rather than government auditors</li> <li>3. level of independence of regulatory agencies</li> <li>4. public or private organizational ownership</li> </ol>
<b>Processes</b>	Indicators that “focus on the quantity or quality of activities carried on by the organization... process measures assess effort rather than effect” (Scott 2003, 366).	<ol style="list-style-type: none"> <li>1. work quantity (e.g. how many lab tests conducted during a given period or how many patients are seen)</li> <li>2. work quality (e.g. frequency of medication errors or proportion of healthy tissue removed from patients during surgery).</li> </ol>	<ol style="list-style-type: none"> <li>1. Number of pursuits engaged in by officers in the department (<i>process-as-output</i>)</li> <li>2. manager decision on how to allocate resources (<i>decision-behavioral process</i>)</li> <li>3. length of client participation in program (<i>decision-behavioral process</i>)</li> <li>4. Coordination among mental health providers (<i>institutional process</i>)</li> </ol>
<b>Outcomes</b>	Indicators that “focus on specific characteristics of materials or objects on which the organization has performed some operation” (Scott 2003, 363).	<ol style="list-style-type: none"> <li>1. knowledge or attitudes of students</li> <li>2. changes in the health status of patients in medical institutions.</li> </ol>	<ol style="list-style-type: none"> <li>1. Birth outcomes: low birth weight, premature birth, and infant mortality</li> <li>2. Neighborhood crime</li> </ol>

**Table 2: Logic of Governance and Scott Synthesis Findings**

<b>Dependent Variables</b>		<b>Policy-Making (C-level)</b>			<b>Independent Variables Management (D-level)</b>			<b>Service Delivery (E-level)</b>		
		Structures	Processes	Outcomes	Structures	Processes	Outcomes	Structures	Processes	Outcomes
<b>Management (D-level)</b>	Structures	66	6	0	-	-	-	-	-	-
	Processes	57	3	0	-	-	-	-	-	-
	Outcomes	11	6	0	-	-	-	-	-	-
<b>Service Delivery (E-level)</b>	Structures	20	2	0	18	9	0	-	-	-
	Processes	89	15	0	75	35	6	-	-	-
	Outcomes	46	4	0	15	7	8	-	-	-
<b>Output/Outcome (F-level)</b>	Structures	7	4	0	2	3	1	0	1	0
	Processes	23	5	0	8	2	0	2	3	0
	Outcomes	111	31	0	73	33	5	42	61	3

**Figure 1: Empirical Modeling Patterns in LOG Database<sup>i, ii</sup>**

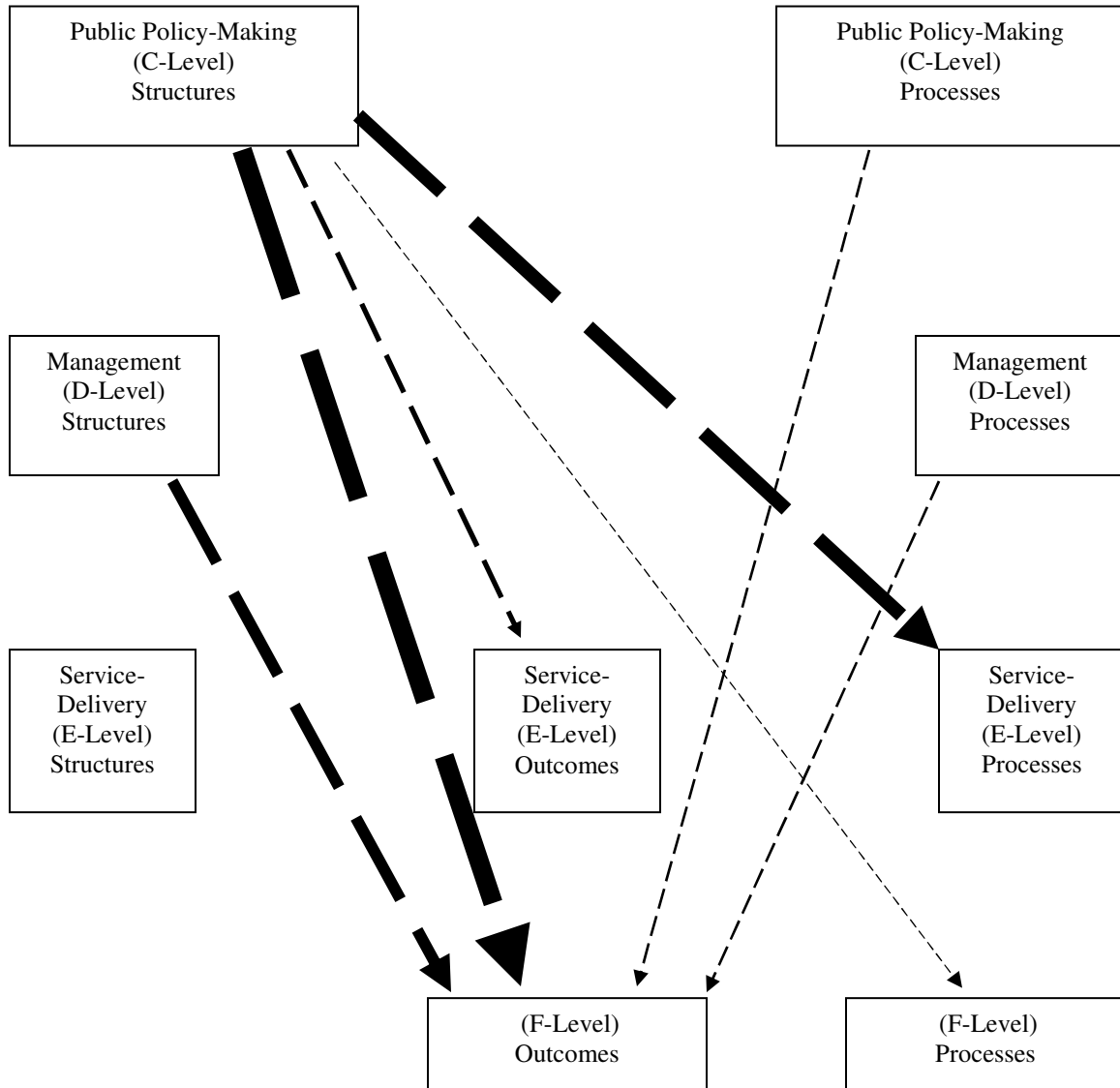


<sup>i</sup> Line thickness indicates the proportion of studies in the database that use that modeling pattern.

<sup>ii</sup> Levels (C, D, E, F) follow the Logic of Governance (Lynn, Heinrich, and Hill 2000) while indicators (structures, processes, and outcomes) originate from Scott (2003)

<sup>iii</sup> Dotted lines represent studies that skip mediating levels in their models. Solid lines indicate studies that do not skip mediating levels.

**Figure 2: Empirical Modeling Patterns for Studies Examining Relationships between Non-Adjacent Levels** <sup>i, ii, iii</sup>

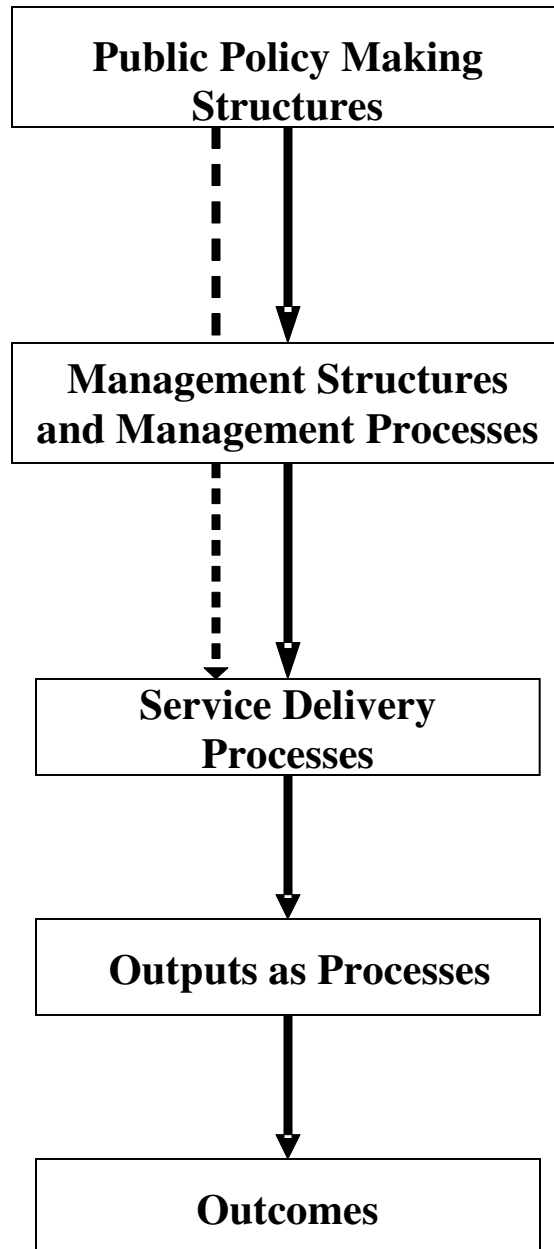


<sup>i</sup> Line thickness indicates the proportion of studies in the database that use that modeling pattern.

<sup>ii</sup> Levels (C, D, E, F) follow the Logic of Governance (Lynn, Heinrich, and Hill 2000) while indicators (structures, processes, and outcomes) originate from Scott (2003)

<sup>iii</sup> Dotted lines represent studies that skip mediating levels in their models. Solid lines indicate studies that do not skip mediating levels.

**Figure 3: Theory of Public Sector Performance**



\*Dotted Lines represent potential modeling patterns that skip levels in the logic of governance but still reflect plausible theoretical causal relationships.



## **Appendix 1**

### **Logic of Governance Hierarchical Interactions**

- between (a) citizen preferences and interests expressed politically and (b) public choice expressed in enacted legislation or executive policies;
- between (b) public choice and (c) formal structures and processes of public agencies;
- between (c) the structures of formal authority and (d) discretionary organization, management, and administration;
- between (d) discretionary organization, management, and administration and (e) core technologies, primary work, and service transactions overseen by public agencies;
- between (e) primary work and (f) consequences, outputs, or results;
- between (f) consequences, outputs, or results and (g) stakeholder assessments of agency or program performance; and
- between (g) stakeholder assessments and (a) public interests and preferences.

## **Appendix 2**

### **Logic of Governance Levels and Sublevels**

#### **A Level – Citizen Preference and Interests**

- 1 Primordial Citizen preferences and interests
- 2 Private firms, orgs, behavior, participation
- 3 Interest groups

#### **B Level – Public Choice**

- 1 Legislator preferences expressed in action or in enacted legislation
- 2 Executive policies
- 3 Court Decisions

#### **C Level – Formal Authority/Policy Making**

- 1 Type of Ownership
- 2 Level/Type of Government
- 3 Internal Government Entities
- 4 Political Atmosphere
- 5 Mandated Behavior
- 6 Policy Design and Elements (mandated)
- 7 Fiscal Situation
- 8 Other

#### **D Level – Management**

- 1 Administrative Structure
- 2 Management Tools
- 3 Management Values or Strategies

#### **E Level – Service Delivery**

- 1 Program Design Features
- 2 Field Worker/Office Discretion
- 3 Field Worker/Office Beliefs and Values

- 4 Administrative Processes and Policies
- 5 Work/Treatment/Intervention
- 6 Client Influence, Behavior, and/or Preference
- 7 Use of Resources and/or Performance (i.e., efficiency, costs, quality, etc.)

## **F Level – Outputs and Outcomes**

### **Output**

- 1 Government/Public Sector
- 2 Market/Firm/Private Sector
- 3 Individual/Society

### **Outcome**

- 1 Government/Public Sector
- 2 Market/Firm/Private Sector
- 3 Individual/Society

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## ENDNOTES

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<sup>1</sup> We wish to acknowledge the research assistance provided by Robbie Waters Robichau and the critiques of earlier drafts by Carolyn J. Hill.

<sup>2</sup> For an example, see the balanced scorecard incorporated in the 2003-2007 strategic plan of the Federal Aviation Administration Logistics Center at [http://www.balancedscorecard.org/files/FAALC\\_SP\\_2003.pdf](http://www.balancedscorecard.org/files/FAALC_SP_2003.pdf).

<sup>3</sup> The organizational effectiveness literature has been criticized for its lack of specificity and operational power (Hirsch and Levin 1999).

<sup>4</sup> In Syracuse University's Government Performance Project, to take another example, investigators concentrated on intermediate outcomes, "elaborating on the nature and role of government" in producing policy results and, in particular, on what they term "management capacity," which comprises financial, human resources, information technology and capital management (Ingraham, Joyce, and Donahue 2003).

<sup>5</sup> Synthesizing findings across studies does in this manner not, of course constitute a classical meta-analysis or test of the validity of a causal relationship. The fact that numerous studies find the same kinds of causal relationships among categories of variables does, however, create a rebuttable presumption that these relationships may be operative in other, comparable contexts.

<sup>6</sup> Material in this section is adapted from Forbes, Hill and Lynn (forthcoming 2007).

<sup>7</sup> Here one can see the benefit of applying a hierarchical governance lens to research on supposedly non-hierarchical topics such as service delivery networks, which do not supplant hierarchical governance so much as they complement and are dependent on it (Frederickson and Smith 2003, Hill and Lynn 2005). See Lynn, Heinrich and Hill (2001) for further discussion on alternative approaches to theorizing about administrative system performance.

<sup>8</sup> For further information on the logic of governance database and original coding procedure, refer to Hill and Lynn 2005 and Forbes and Lynn 2005.

<sup>9</sup> Our coding reflects the authors' theoretical conception of variables versus the way they operationalize them. For example, Goel and Nelson (1998) measure "corruption among public officials" (an outcome variable) but they operationalize the measure as the number of public officials convicted for abuse of public office as a fraction of total public employment in the state. We code the dependent variable corruption as an outcome variable.

<sup>10</sup> The two percent minimum threshold captures over 80 percent of the studies in the database. All proportions in Figures 1 and 2 are between two and ten percent; the largest

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proportion, nine percent (approximately 55 studies), is that linking c- and f-level variables.

<sup>11</sup> It is also worth noting that the pattern of findings discussed above is the same among the subset of health studies previously analyzed by the authors (table not shown).

<sup>12</sup> This number is consistent with the pattern found in the subset of health studies previously used by the authors (Forbes, Hill, and Lynn 2007), where almost seventy percent of studies employing policy-making independent variables and process measures of effectiveness at the service delivery level omit management variables.

It should be noted that a few studies in our dataset employ outcome effectiveness indicators as dependent variables at the management level. While we have chosen not to include outcome indicators of managerial effectiveness in our core model of governmental performance, their existence does suggest that at least some public management research regards performance or change at the management level as ends in themselves, which is more in line with organizational theory. Outcomes such as changes in management culture (Ates 2004) and middle managers thoughts and beliefs about values in the British National Health Service (Hewison 2002) reflect this perspective.

<sup>13</sup> See Hill and Lynn (2007) for a discussion of how management matters. See also Evelyn Z. Brodtkin. 1990. "Implementation as Policy Politics". In D. Palumbo and D. Calista, eds. *Implementation and the Policy Process: Opening Up the Black Box*. Greenwood Press.

<sup>14</sup> For a detailed examination of these influences, see Evelyn Z. Brodtkin (1987). See also the discussion of how governance matters in Hill and Lynn (2005).