# ARTICLES

# Studying Governance and Public Management: Challenges and Prospects

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**ABSTRACT**

*How can public-sector regimes, agencies, programs, and activities be organized and managed to achieve public purposes? This question, of fundamental importance in the fields of politics, policy implementation, public administration, and public management, motivates the systematic study of governance. In this article, we present a* logic of governance, *based in political economy literatures, that might be used as a first step toward framing theory-based governance research. We also describe a methodological approach that is more likely to appropriately identify and explain relationships in governance regimes that involve activities and interactions that span more than one level of an organization or systemic structure. In addition, we explore the potential of various sources of data for governance research, recognizing that governance researchers will inevitably have to make simplifying assumptions or measure crudely things that we know are much more complex. We argue that when appropriately framed and interpreted through a logic of governance that acknowledges limitations attributable to the models, methods, and data employed, governance research is more likely to produce enduring knowledge about how, why, and with what consequences public-sector activity is structured and managed.*

Public policies and programs, including many social programs, are carried out in the public, nonprofit, and proprietary sectors through webs of states, regions, special districts, service delivery areas, local offices, independent organizations, collaborative associations, partnerships, or other administrative entities. In most cases, the outcomes, efficiency, or effectiveness of these administrative entities vary significantly; some are more successful than others. Confronting this variation in performance,

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policy makers, public managers, stakeholders, and program evaluators want to know, first, what accounts for such significant differences in performance. Their next question is inevitable: How can more administrative entities be made to perform like the best of them perform?

If policy makers and public managers are to decentralize program operations and bring services closer to the people who are served, they must know how to ensure accountability and good practice across diverse service units in dispersed locations. Possible reasons for cross-site variation in performance include the characteristics or needs of the people served; the skills or motivations of the direct service workers; the quality of local site management; the clarity of policy direction; factors in the local environment; the extent of system-wide coordination; the strength and enforcement of performance incentives; and other structural characteristics of the system. Some of these factors are likely to be much more influential than others, making it important to know which factors matter most if better system performance is to be attained.

Assessing performance in diverse and dispersed systems of public administration illustrates the more general issue of governance: How can public-sector regimes, agencies, programs, and activities be organized and managed to achieve public purposes? This question is the concern of officials in all branches and at all levels of the public sector: legislators, elected and appointed executives, and judges at federal, state, and local levels of government. Underlying it is an even broader question: How can government continually improve performance so as to earn the respect of citizens who pay for, and whose lives are affected by, its programs and regulatory activities? This question is of fundamental importance in the fields of politics, policy implementation, public administration, and public management and it motivates the systematic study of governance—that is, research whose objective is to determine how, why, and with what consequences public-sector activity is structured and managed.

## THE CONCEPT OF GOVERNANCE

The term *governance* is widely used in both public and private sectors, in characterizing both global and local arrangements, and in reference to both formal and informal norms and understanding. Because the term has strong intuitive appeal, precise definitions are seldom thought to be necessary by those who use it. As a result, when authors identify governance as important to achieving policy or organizational objectives, it may be unclear whether the reference is to organizational structures,

administrative processes, managerial judgment, systems of incentives and rules, administrative philosophies, or combinations of these elements.

Despite ambiguity of definitions, governance generally refers to the means for achieving direction, control, and coordination of wholly or partially autonomous individuals or organizations on behalf of interests to which they jointly contribute. Thus, we speak of the governance of global financial markets and of local public schools, of the European Union and of federally administered social programs, of international humanitarian aid distribution and of networks of public-service providers.

In the empirical analysis of public policies and their implementation, the term *governance* may be defined as regimes of laws, administrative rules, judicial rulings, and practices that constrain, prescribe, and enable government activity, where such activity is broadly defined as the production and delivery of publicly supported goods and services.[1] In its broadest sense, the study of governance concerns the relationship between governance so defined and government performance.

A number of questions might be explored within a governance context:

- How much formal control should be retained by authoritative decision makers and how much should be delegated to subordinates and officers? How do the answers to this question vary across political and professional contexts?
- How can particular ideas, or the objectives of particular, powerful stakeholders, or conceptual goals such as *efficiency* or *high reliability*, be incorporated into an existing governance regime[2] so as to promote its success?
- How can a governance regime be designed to insure priority in resource allocation and attention to particular goals and objectives?
- How can dispersed governance regimes (across states, across municipalities within a state, across local offices or networks) be induced to converge on the achievement of particular policy objectives?
- To the extent that public-program performance depends on competence and reliability at the street level of government (for example, public school classrooms, local welfare

[1]Two separate intellectual traditions have contributed to the etymology of the term *governance* in public administration (Milward 1999; O'Toole 1999). First, the study of institutions has emphasized the multilayered structural context of rule-governed understandings. Public-choice scholars are among the primary contributors to the institutional roots of governance research. Second, the study of networks has emphasized "the role of multiple social actors in networks of negotiation, implementation, and delivery . . . 'governance' requires social partners and the knowledge of how to concert action among them . . ." (O'Toole 1999).

[2]We use the terms *configuration*, *regime*, *arrangement*, and *system* interchangeably, even though each term has somewhat different connotations. They have in common the idea of many interacting elements whose collective effect is nonadditive, and that is our meaning.

offices, clinical treatment facilities), how can governance be organized to ensure greater competence or attention to particular priorities?

A governance research agenda that includes such questions encompasses both positive research concerned with empirical testing of contingent propositions and analysis of the empirical content and implications of normative propositions. Both kinds of knowledge can prove useful in the analysis and design of governance systems in areas such as public education, health care, and public assistance.

The study of governance must confront three complicating factors, however: the configurational nature of governance, the political interests that influence action, and the fact of both formal and informal authority.

- Governance implies a configuration of distinct but interrelated elements—statutes, including policy mandates; organizational, financial, and programmatic structures; resource levels; administrative rules and guidelines; and institutionalized rules and norms—that constrains and enables the tasks, priorities, and values that are incorporated into regulatory, service production, and service delivery processes. Thus governance involves extensive endogeneity rather than the mere summing up of independent elements (Ostrom 1986).

- Governance is inherently political, involving bargaining and compromise, winners and losers. A given governance regime distributes resources and responsibility for functions and operations within and between offices and organizations in the public and private sectors. Because these distributions link the objectives of stakeholders with governmental operations, disagreements among stakeholders fuel political competition for the control of public administration (Moe 1989). Their goal may or may not be effective or efficient performance.[3] Rational actors in legislatures cannot be expected to create rational organizations to execute their mandates; indeed, they may act to preclude effective administration of a controversial program rather than eliminate it outright.

- Governance comprises both formal structures—statutes, administrative guidelines, judicial decrees—and the informal exercise of judgment by the numerous actors involved in policy and program implementation. The links between formal authority and government operations may be loose and unreliable, especially if policy makers and administrators disagree over the means and ends of governance.

[3]The Job Training Partnership Act (JTPA) is an example of measured performance as a legislated goal. The picture is far murkier in the case of public education and public assistance, for example, where multiple, often conflicting goals tend to be incorporated in formal mandates.

In order to address significant questions of governance, researchers need an intellectual perspective that enables them to address these kinds of complications in a conceptually appropriate and rigorous way.

## MODELING GOVERNANCE AND PERFORMANCE

Any particular governance arrangement—within a policy domain, with respect to a type of government activity, within a particular jurisdiction, or within a particular organization or organizational field—is embedded in a wider social, fiscal, and political context. Empirical research or field observation may model governance arrangements as loosely coupled or decoupled from the wider context, reflecting either the specific focus of the theory employed or the need to scale the analysis to tractable proportions. The possibility that broader patterns of interrelationships affect outcomes is often not adequately incorporated into explanation or interpretation of research findings. For example, a study may attribute client outcomes to client characteristics, to worker and treatment characteristics, or to patterns of interaction between clients, treatments, and workers but ignore the potential significance of local or hierarchical organizational and management variables or of system-wide incentives. Reference to a broader "logic of governance" increases the chances that empirical research will produce accurate and useful information for policy makers.

### An Institutional Perspective

One starting point for a logic of governance is the literature of institutional political economy.[4] Issues that this literature addresses include "the consequences of alternative institutional forms on the behavior of individuals and the outcomes of collective decisions, the mechanisms that enable institutions to constrain behavior, and the logic of the processes through which institutions change" (Weimer 1995, 2).

A logic of governance based in the literatures of political economy might be characterized as follows:[5]

- Responding to citizen and stakeholder interests and concerns, legislators create coalitions to support and enact specific bills. Coalitions involve, in the first instance, both houses of a legislature and the elected executive, but may include (implicitly) the courts and (explicitly) bureaucrats, who often control the resources of information and technical competence.

[4]The intellectual boundaries of our project overlap substantially with part 4, "The Governing Processes and Their Modes of Operation," Friedrich (1963, 387-523).

[5]This section is based on the work of Fiorina (1982); Horn and Shepsle (1989); McCubbins, Noll, and Weingast (1987 and 1989); McCubbins and Schwartz (1984); Moe (1989 and 1990); Noll and Weingast (1991); Shepsle and Weingast (1981); Weingast and Moran (1983); and related work.

- A legislative coalition reflects mixed motives based on legislators' present and future interests in a variety of issues. Their general intent may be described as *deck stacking*, that is, crafting durable legislative deals that favor particular actors and interests.

- Deck stacking is accomplished by specifying administrative decision rules, defining decision criteria, adjusting evidentiary burdens, enfranchising or empowering particular actors, and subsidizing particular interests.

- Unelected public managers, especially those with tenure in office, are potential threats to the durability of any deal. Enacting coalitions create governance arrangements specifically to narrow or prescribe the range of executive-administrative discretion and thus ensure compliance with the coalition's multifarious intentions.

- Bureaucratic controls are of two types: ex ante controls preclude noncompliant decisions and actions; ex post controls detect and punish noncompliance after the fact. The former give rise to principal-agent problems—that is, controls over bureaucratic activity that are ineffective because formal accountability is problematic. The latter, the legislative version of managing by exception, allow for more flexible ex post monitoring based on the "fire alarms" set off by aggrieved parties but may come into play too late to be effective.

- Implementation of legislative mandates involves administrative discretion. Implicated both in achieving and in thwarting the objectives of the legislative deal, discretion is exercised by actors at various levels of government and within departmental hierarchies, from executives at the federal level to front-line employees in local offices. Within hierarchies, higher-level managers may use (or be directed by legislation to use) their discretion to create additional constraints and controls on lower-level managers and workers. The drift away from legislative intent may originate at subordinate levels of the system, where actors may be relatively immune to the interests of the deal makers.[6]

- Governance regimes, even those with substantial ex ante controls, create or allow for substantial discretion and influence at the front-line levels of public organizations, where the primary work of service delivery and regulation is performed.

[6]In the same vein, a drift away from executive, as opposed to legislative, intent may originate at lower levels, where workers are allied with members of legislative coalitions and their constituencies.

In summary, governance comprises structures and processes guiding administrative activity that create constraints and controls (both ex ante and ex post) and that confer or allow autonomy and discretion on the part of administrative actors, all toward fulfilling the purposes of the enacting coalition. To construct an organizing framework for empirical research, this logic of governance can be delineated as a hierarchy of relationships:

- between citizen preferences and interests expressed politically and legislative choice;
- between legislative preferences and the formal structures and processes of public agencies;
- between formal authority and the structure and management of organizations, programs, and administrative activities;
- between organization, management, and administration and the core technologies and primary work of public agencies;
- between primary work and outputs or results, that is, the availability, quality, and cost of publicly sponsored goods and services;
- between outputs or results and stakeholder assessments; and,
- between stakeholder assessments and reactions and, back to the top of the list, political preferences and interests.

Such a logic of governance is neither a paradigm nor a unified *theory of governance*. Rather, it is a schematic or heuristic framework that suggests how the values and interests of citizens, legislative enactments and oversight, executive and organizational structures and roles, and judicial review might be linked through a dynamic and interactive process. Located within an institutional frame of reference, it is *a particular way* to identify central relationships and factors in governance research and, especially, in empirical governance research.

## Public Management in a Logic of Governance

Within a wider scope of governance, which features both formal and informal structures that predispose action, the study of public management is concerned with action itself: the discretionary actions of actors in managerial roles subject to formal authority.[7] The need for management arises under three conditions: when an enacting coalition has explicitly delegated the figuring out of appropriate action to executive agencies; when

[7]A managerial role is one that incorporates formal authority over subordinate actors, multiple tasks, both programmed and unprogrammed activity, and an opportunity to exercise judgment in selecting actions to be carried out by others.

there is ambiguity in the mandate, providing opportunity (intended or unintended) for managers to figure things out; and when fulfilling legislative or administrative objectives requires judgment in interpreting and enforcing rules and standards in particular cases.

Two distinct or paradigmatic approaches to public management may be identified within this logic of governance. First, public managers may optimize outcomes within a given system of formal authority. This essentially short-run view of public management emphasizes the quotidian, repetitive aspects of managerial roles and features the psychology, tactics, and political intercourse aspects of management. A second approach views public managers as proactive participants in coalition politics, as representatives of elected executives, as representatives of agency constituencies, or as goal-seeking actors in their own right. This view is implicit in the notion of iron triangles and issue networks.[8] In the literature on social control, it is implicit in the notion of bureaucracy. This longer-run view broadens the subject of public management to the wider domain of governance and administrative control of bureaucracy, and it broadens the content of management to include the design of governance arrangements.

For public management research in the context of a logic of governance, the challenge is to explain government results, outcomes, impacts, or performance in ways that allow for the separate identification of governance arrangements and of public management. That is, the problem is to separate how the deck is stacked from how managers figure things out and exercise discretion within a governance arrangement.[9]

Institutional political economy provides an exceptionally useful framework for viewing any series of interactions, programs, or arrangements as part of a larger system of laws, rules, judicial precedents, and administrative practices that constrain, prescribe, and enable government activity. Furthermore, such a framework helps organize and integrate potential contributions to the study of governance from many disciplines and fields and is essential to achieving a theoretically sophisticated and empirically rigorous understanding of governance.

## Alternative Frameworks for Governance Research

A logic of governance based in political economy is not the only—nor always the most appropriate—one that might be used to derive hypotheses concerning the dynamics of policy and program implementation and their consequences.[10] In examining

[8]The view of public managers as proactive participants in coalition politics is less well developed in the literature than the first type of approach we describe. An exception is Kingdon (1984).

[9]The manager's influence on deck stacking is a separate matter, relatively easily depicted in spatial models but difficult to study empirically.

[10]The hypothesis of deck stacking is sharply contested by critical legal theorists and by legal idealists, who have altogether different explanations for why legislation and administrative law take the forms that they do (Mashaw 1990). Moreover, it is hard both to submit deck stacking to disconfirmation and to investigate the extent to which and how bureaucrats thwart the purposes of enacting coalitions and the nature of the a priori purposes that are served by government activities.

possible alternatives to this logic, we might consider at least two broad issues. First, other research frameworks for examining public program governance may begin with fundamentally different assumptions about actors or relationships among actors or organizations. Second, other frameworks or models may focus on a particular aspect or level of governance, neglecting or concentrating narrowly within a full account of the governance process (i.e., one that progresses from legislative enactment to policy implementation). This section provides some initial thoughts for comparing frameworks, locating specific theories within broader frameworks, and assessing and integrating contributions of empirical research on governance and public management.

*Different Starting Points*. A logic of governance based in political economy builds on the individual as the unit of analysis and on constrained optimization as the individual's method of choosing. Other organizing frameworks have different starting points for models of actors or relationships within a governance regime.

For example, a logic of governance grounded in network analysis focuses on multiple actors (organizations) embedded in social relations, where "a fruitful analysis of human action requires us to avoid the atomization implicit in the theoretical extremes of under- and over-socialized conceptions" (Granovetter 1985, 487).[11] Amplifying these ideas and applying them to an empirical analysis of apparel firms in New York, Uzzi (1996) finds that the standard concepts in political economy such as "self-interest maximization, generalized reputation, and repeated-gaming fade into the background, [and] issues of how social relationships promote thick information exchange, rapid and heuristic decision-making, and the search for positive-sum outcomes take the fore. In this logic, the network acts as a social boundary of demarcation around opportunities that are assembled from the embedded ties that define membership and enrich the network" (p. 693).

Empirical research in public-sector governance, using the logic of networks, might construct interpretations of policy making that emphasize the centrality of continuing social and political relationships and communication among communities of stakeholders and other actors internal and external to executive agencies (e.g., Milward and Provan 2000). Laumann and Knoke (1987) consider how elite structures affect policy-making activities and construct an

. . . orienting framework [as] a *set of consequential corporate actors,* each possessing (1) variable *interests* in a range of *issues* in a national policy

[11] In his critique of under- and over-socialized views, Granovetter (1985) states that "both have in common a conception of action and decision carried out by atomized actors. In the undersocialized account, atomization results from narrow utilitarian pursuit of self-interest; in the oversocialized one, from the fact that behavioral patterns have been internalized and ongoing social relations thus have only peripheral effects on behavior" (p. 485).

domain and (2) relevant mobilizable *resources*. These actors are *embedded* within communications and resource exchange *networks*. The flows of specialized communications and resources among the actors enable them to monitor, and to communicate their concerns and intentions in, relevant decision-making *events* that, in turn, have consequences for their interests. These events, both in themselves, as unique historical occurrences, and in their interrelationships, have critical import for explaining the behavior of individual actors and their interaction (p. 5).[12]

Another logic derives from general systems theory, a specific expression of which can be found in price theory and the economic theory of production. Systems models may frame governance regimes as production or transformation processes that link inputs to outputs via organizations, managers, and technologies (Scott 1992; O'Toole and Meier 2000). These production function, or input-output, studies are common in K-12 education research where student achievement often is modeled as a function of inputs that include student characteristics, teacher education and experience, teacher/student ratio or class size, and expenditures.[13] Similarly, Barnow (1979) argues that manpower training programs are an extension of education programs in which the outcomes of interest are a "set of skills and attitudes possessed by the participant after completing the program," produced by "program inputs . . ., the levels of skills and attitudes possessed by the participant prior to the training (which may be thought of as 'raw materials'), and . . . other personal characteristics that may influence the training process" (p. 299).

*Levels and Units of Analysis*. Modeling choices in empirical research reflect practical as well as theoretical restrictions, whether or not the researcher is operating within a more general framework or logic. Empirical investigation of governance involves both selection of a particular governance configuration and of a unit of analysis. A researcher may focus on a policy (e.g., child protection), a specific program (e.g., JTPA), or an organization (e.g., the Illinois Department of Children and Family Services) as the governance arrangement under study and may focus on individual outcomes, organizational-level outcomes, or a type of activity (e.g., performance contracts or network ties) as the unit of analysis. A theory or model may address a particular aspect of processes, of relationships between actors or entities, or of performance more broadly; yet any subset of rules, laws, or practices reflects only part of a broader framework of public program governance.[14]

Individual- or organizational-level theories that inform governance research focus investigators' analyses and necessarily do so whether they are operating under a logic of governance based in rational choice, socialized choice, or any other broad

[12]Emphasis in original.

[13]See, for example, Hanushek (1996) and Hedges and Greenwald (1996) for recent reviews of this literature.

[14]For example, production functions for student achievement seldom contain state- or district-level political environments or financing structures that may affect school-level governance (Lynn and Tepper 1998).

approach. For example, by using models based in political economy, Chubb (1985) examines state and local public school spending influenced by federal grants for vocational education and Title I education funds for disadvantaged children. The model attempts to account for local need, multiple principals, a two-tiered hierarchy, and political and economic factors. He does not model specific managerial and teaching-learning processes in program implementation.

An example based on socialized choice assumptions might test whether organizational culture influences organizational performance. For example, Marcoulides and Heck (1993) measure culture as five interrelated latent variables: organizational structure/purpose and organizational values, which are assumed to be exogenous; and organizational climate, task organization, and worker attitudes/goals, which are assumed to be endogenous and which correspond to sociocultural, organizational belief and to individual belief subsystems. Each of these latent variables is measured by several observed variables, and their relationships to organizational performance are assessed.

In our introductory discussion, we emphasized differences in performance across administrative units. DiMaggio and Powell (1991) might look at the same facts and ask why there is so much similarity in structure. The observed differences in performance might be much greater if coercive, mimetic, and normative isomorphism were not operating. Their predictors of isomorphic change include organization level factors (i.e., dependence of one organization on another; centralization of resource supply; uncertain technologies or loose coupling; ambitious nature of organizational goals; education or professionalization of staff and managers) and field level factors (i.e., membership in an organizational field dependent on a single source of support; degree of interaction/transaction among organizations in a field; number of alternative organizational models in the field; uncertain technology; professionalization; and structuration).

Analytical reduction and restrictions on the focus of models clearly are essential for investigating most aspects of governance. However, to the extent that a theory or model applied narrowly leads to mismeasurement of a concept, to inappropriate aggregation (or disaggregation) of data, or to lack of consideration of important omitted variables (when viewed from a wider framework of governance, not necessarily from the theory applied to a subprocess or element of governance), analyses using restricted models may give not only a partial account, but a *biased* partial account, of governance. Basing policy design and implementation on flawed findings is likely to produce flawed programs and

management.[15] Even though measurements may not be available for these other levels or factors in a governance regime, researchers who are interested in policy design and evaluation are well advised to attempt more explicitly to discuss or locate their findings within a broader context. This is an issue to which we will return.

The value of a unifying framework with regard to public-sector activity and managerial roles and contributions is considerable. In public-sector governance regimes, the need for management arises when the enacting coalition has either explicitly or implicitly delegated the need to figure things out to agencies, program administrators, or street-level bureaucrats. There is virtually always a need for management and, therefore, managerial behavior is almost always a factor in government performance. An integrating logic that takes into account the wider view of governance regimes in which management is embedded is imperative to the viability and usefulness of this research.

## A Reduced Form Model

This argument has important methodological implications. At a general level, one may identify broad categories of variables included a priori in any particular logic, model, or theory of governance or public management whether they are based in political economy, network analysis, systems models, or other approaches such as Wilson (1989). These categories or components can be summarized in a simple reduced-form model of governance and public management:

$$O = \mathrm{f}\,(E, C, T, S, M)$$

where:

- $O$ = outputs/outcomes (individual level and/or organizational outputs/outcomes)
- $E$ = environmental factors
- $C$ = client characteristics
- $T$ = treatments (primary work/core processes/technology)
- $S$ = structures
- $M$ = managerial roles and actions

The exhibit lists examples of variables used in governance research for each of these reduced-form model components. While the complex subject of governance benefits from a broad, conceptually ordered awareness of its essential substance, a reduced-form expression represents only a first step in framing theory-based governance research.

[15]Similar analytical issues arise in theories of the firm where neoclassical, industrial organization, contractual, or organizational incentive theories are relevant to varying degrees depending on the research question. Application of a particular theory or set of theories depends on whether "the firm and its markets are viewed from 'far away' or 'nearby'" (Spulber 1992, 536). Furthermore, firm-level effects (such as those identified by resource-based theory) are to be distinguished from industry-level effects (such as key success factors) on firm profitability. The introduction of institutional and organizational economics into the study of private-sector management strategy makes it possible to impose a useful intellectual coherence on a subject that otherwise exhibits an undisciplined eclecticism tending toward homiletics.

**Exhibit**
**Reduced Form Logic of Governance**

| Reduced-form Model Component | Examples of Variables |
|---|---|
| $O$ = *Outputs/outcomes* (individual level and/or organizational level) | • precisely defined, empirically measured variables<br>• broadly defined, not necessarily client-oriented variables |
| $E$ = *Environmental factors* | • political structures<br>• level of external authority/monitoring<br>• performance of the economy<br>• market structure/degree of competition<br>• funding constraints/dependencies<br>• characteristics of eligible or target population<br>• legal institutions/practice<br>• technological dynamism |
| $C$ = *Client characteristics* | • client attributes/characteristics/behavior |
| $T$ = *Treatments* (primary work/core processes/technology) | • organizational mission/objectives<br>• determination of target populations, recruitment or eligibility criteria<br>• program treatment/technology (including scope/intensity of services) |
| $S$ = *Structures* | • organization type<br>• level of integration/coordination<br>• centralization of control<br>• functional differentiation<br>• administrative rules/incentives<br>• budgetary allocations<br>• contractual arrangements<br>• institutional culture/values |
| $M$ = *Managerial roles and actions* | • leadership practices—characteristics, attitudes, behavior (including, e.g., innovation and goal setting, worker motivation, recognition and support, problem solving, and delegation of authority or work tasks)<br>• staff-management relations, communication and decision-making tools and arrangements<br>• professionalism/career concerns<br>• monitoring/control/accountability mechanisms (including performance standards, incentives, and sanctions) |

*A Tool for Empirical Governance Research.* The reduced form is not in itself a theory, but it suggests possible associations between various independent and dependent variables of interest in governance research. A complex causal structure almost certainly underlies these relationships in the model: interdependencies often exist among (and within) *E*, *C*, *T*, *S*, *O*, and *M*. The reduced form model encourages researchers to locate particular theories and models within a more general framework of possible theories and models.

Theory-based empirical research should seek to identify the most parsimonious model for estimating key causal relationships that can be generalized beyond the specific context of an analysis. The true model may be one in which the marginal effects are zero for some elements represented in the reduced form. Furthermore, many possible causal explanations might be ruled out in particular research contexts on the basis of a priori reasoning or on the basis of well-designed empirical research.

Unless it can be argued theoretically that interactions between levels do not occur, the most useful logics for governance research are likely to be those that take into account at least two of these types of components and/or levels of analysis. This is true no matter which framework is chosen to conceptualize the research. Researchers may gradually introduce additional elements of conceptual complexity into an initially parsimonious model.

This approach to designing empirical work requires investigators to recognize the formally hierarchical, essentially political, and loosely coupled nature of policy enactment and program implementation structures and processes. The investigator is encouraged to take into account the endogenous nature of factors often assumed to be exogenous, such as local implementation structures or service and resource provider behavior (e.g., Moe 1985). Further, the investigator's attention is drawn to influences on operations and outcomes originating at various levels of administration, for example, formal mandates in legislation, administrative guidelines, or the discretionary strategies chosen by managers, thus recognizing the importance of both formal and informal authority and the relationships between them.

Governance research using such a logic also enlarges the intellectual scope of what is called *implementation analysis*. Within a governance framework, investigators can explore the determinants of policy and program impacts without becoming distracted by the alleged dichotomy between policy-level (or top-down) and street-level (or bottom-up) explanations of outcomes

or performance. Elmore (1979, 605) argues that "applying forward and backward mapping to the same problem gives much different results. . . . The crucial difference of perspectives stems from whether one chooses to rely primarily on formal devices of command and control that centralize authority or on informal devices of delegation and discretion that disperse authority." These issues can be explored conceptually and empirically within a governance framework focused on performance instead of on the primacy of a top-down or bottom-up perspective.

In general, this logic of governance encourages investigators to provide a broader context for their models and empirical analyses when drawing conclusions from necessarily incomplete data and information. The sorting out and identifying of those factors over which policy makers and public managers might exercise leverage requires, in addition to good data, the use of appropriate theoretical and statistical models to specify and subsequently identify significant causal relationships that link governance and performance. The models and methods that are employed in producing this kind of practical knowledge are, unfortunately, sometimes rather esoteric. Their use is essential, however, if we are to obtain fundamental insights into the meanings of the otherwise complex facts concerning governmental performance and its determinants.

## METHODOLOGICAL APPROACHES TO THE STUDY OF GOVERNANCE

Scholarly interest in advancing methodological tools and strengthening the cumulative governance knowledge base, combined with an increasing emphasis on performance management in public organizations worldwide, has recently generated greater interest in *empirical* research strategies that attempt to relate the *measurable effects* of public programs and policies to the specific governance features that seem to produce them (Lynn, Heinrich, and Hill forthcoming; Mead 1997 and 1999; Smith and Meier 1994; Milward and Provan 1998; Roderick, Jacob, and Bryk 2000).

In our review of over five hundred research articles, books, and working papers among the literature of governance (Lynn, Heinrich, and Hill forthcoming), we observed application of a number of diverse quantitative methodologies. These included factor analysis; ordinary least squares regressions; weighted least squares; event history analysis; logit, multinomial logit, and ordered logit models; autoregressive models; interrupted time series; pooled time series; structural equation modeling; seemingly unrelated regressions; hierarchical linear regressions; data

envelopment analysis; and others. In quantitative analyses, ordinary least squares (OLS) is unequivocally the primary technique employed.

## Conventional Methods and Their Limitations

One problem with applying OLS in governance research, as we have previously emphasized, is that most relationships in governance regimes involve activities and interactions that span more than one level of an organization or systemic structure. Empirical studies designed to analyze these relationships typically focus on program processes or outcomes at a single organizational (or individual) level. Some studies group individuals or other units of analysis and attempt to explain *average* effects or outcomes for higher levels of aggregation (e.g., for local offices or agencies). Other studies, including experimental and nonexperimental program evaluations, analyze the influence of organizational or structural factors on individual or lower-level unit outcomes by controlling for these factors in individual-level regressions, by estimating separate individual-level regressions for different organizational units, or by using a single program indicator variable such as a *school* or *local office* indicator. These studies typically explain only a small percentage of the total variation in individual outcomes, and we gain little understanding of the interactions and influence on program outcomes of specific organizational or structural factors.

A second problem is that procedures to assess what portion of the explained variation can be attributed to policy or administrative variables included in individual-level models do not provide adequate information to address questions that are critical to governance researchers: How much of the *total* variation in individual outcomes is attributable to the way that policies or programs are designed and implemented? What portion of variation attributable to such factors is explained by the administrative or structural variables included in the model? Are there other potentially important variables that are not incorporated in these models that might change the observed effects of the variables that *are* included? Without answers to these questions, we are left with uncertainty about how much difference the characteristics of the governance regime make as well as with unclear policy prescriptions for program designers and administrators.

Such limitations in modeling using individual-level outcomes lead Mead (1997 and 1999) and others to model administrative processes and program outcomes across multiple sites using client data aggregated at the site level. Mead (1999) describes this type of research as *performance analysis*: process research that draws

formal, statistical connections between administrative practices and outcomes, with programs or sites as the unit of analysis. He argues that "variation [in outcomes] across programs tends to be more systematic," and therefore, "explanatory models using these data tend to be strong" (p. 22). Many studies that use organization-level approaches commonly report high levels of variation explained with a relatively small number of policy related variables. Mead acknowledges, however, that the variation explained in site- or program-level OLS models is not variation in individual outcomes (or program impacts on individuals) but rather variation between sites or programs. Care in describing study findings is necessary, therefore, to avoid the use of results of regression models at one level of hierarchy to infer what might be going on at lower levels, although information from case studies and qualitative data analyses can help inform us about these interrelationships at other levels.

In light of the limitations of OLS in modeling and identifying causal relationships in government systems, Gill and Meier (1999) suggest some specific quantitative research methodologies that they believe are more compatible with observed relations in the administration of public organizations and policies as well as with their theoretical formulations. These include: *advanced time series techniques*, such as distributive lag models of the cumulative effects over time of initial policy or program changes; *Bayesian approaches* that use prior knowledge to assign a prior probability on unknown parameters; and the more recently developed technique, *substantively weighted least squares*. Gill and Meier point out that all these approaches are special cases of the generalized linear model, which should make them more accessible to researchers with a basic understanding of generalized linear methods of analysis.

Another statistical methodology based on the generalized linear model is the hierarchical linear model, a multilevel model that allows for empirical analyses of factors interacting at multiple levels of hierarchy within governance systems. While no single methodology will make governance research better or accommodate all theories and data, results to date suggest that hierarchical linear modeling may have considerable potential for use in governance research.

## Multilevel Methods Applied to Governance Research

Multilevel modeling strategies allow researchers to formulate and test hypotheses about how factors or variables that are measured at one level of an administrative hierarchy might interact with variables at another level. Most relationships in

governance systems involve activities and interactions that span *multiple levels* of organizational or systemic structures; multilevel models are more likely to be consistent with our formal and informal models of governance.

In multilevel models, the assumption of independence of observations in the OLS approach is dropped, and relationships in the data are allowed to vary (rather than assumed to be fixed over varying contexts). The extent to which multilevel modeling improves statistical estimation in comparison to standard OLS models depends on *cross-level effects* in the data and the corresponding extent of variation in the dependent variable at different levels of analysis (see, for example, Heinrich and Lynn 1999). The existence of cross-level interactions is at the crux of the development of multilevel modeling techniques. Potentially severe problems arise when statistically significant cross-level interactions are present but are ignored in OLS specification. These problems include reduced (or inflated) precision of estimates, misspecification and subsequent misestimation of model coefficients, and aggregation bias.

Education researchers such as Goldstein (1987) and Bryk and Raudenbush (1992) have led social science efforts to develop and apply multilevel models to the analysis of public service delivery systems. In early research, Bryk and Raudenbush (1987), for example, applied these techniques to analyze school-level effects on students' mathematics achievement scores. They later developed the hierarchical linear modeling (HLM) statistical program that is now widely used in social sciences research (1992 and 1999). As the capabilities of these statistical programs have advanced, methods for modeling multilevel organizations and other hierarchies have also become more complex. For example, in recent research, Roderick, Jacob, and Bryk (2000) use three-level hierarchical linear models to analyze changes in students' grades and test scores over time (level 1); students' paths through the implementation of new administrative policies (within schools and across years) and the influence of student characteristics (level 2); and the effectiveness of schools' responses to these policies as a function of school demographics and characteristics, measures of policy implementation and teachers' classroom strategies, and the school environment and prior school development (level 3). This study also includes a qualitative component with intensive case studies of each school's approach to the policy implementation and a longitudinal investigation of students' experiences under the policy.

More recently, the application of multilevel modeling strategies has been extended to other areas of public policy research.

Using data collected during the National JTPA Study on JTPA participants' characteristics and earnings and employment outcomes, along with administrative and policy data obtained from the sixteen study sites over a three-year period, Heinrich and Lynn (2000) estimated hierarchical linear models of participant outcomes. They found that both site-level administrative structures and local management strategies (including performance incentives) had a significant influence on participant outcomes.

In a separate paper that also involved the study of JTPA programs using two different data sets, Heinrich and Lynn (1999) compared hierarchical linear modeling (HLM) techniques with two different OLS approaches: OLS regression models using individual-level data, and OLS models using outcome measures aggregated at the site or the organizational level. The percentage of total variation in participant outcomes between sites or organizations was considerably larger in one of the two data sets than in the other (6 to 39 percent versus 3 percent).

Heinrich and Lynn found that when a very small percentage of variation occurs at the site or organizational level (e.g., 3 percent), individual-level OLS and HLM methods are likely to produce comparable estimates of individual and site-level effects. Using HLM in these cases may still be advantageous, since it enables researchers to assess what proportion of variation at different levels is explained by the models specified, and whether any statistically significant variation remains to be explained. In addition, researchers can use various analytical strategies to examine patterns or irregularities in the residuals at both the organization level and the individual level (see Bryk, Raudenbush, and Congdon 1999; Goldstein 1995).

In contrast to the comparable findings of the HLM and individual-level OLS models in which a very small percentage of the variation occurred between sites, Heinrich and Lynn (1999) found that site-level models produced some individual and site-level coefficient estimates that differed from estimates obtained from the HLM and individual-level OLS models in ways contrary to expectations based on theory and previous empirical research. The inconsistencies in the site-level policy and administrative coefficients are of particular importance, given that these variables are of primary interest in studies of governance. Krull and MacKinnon (1999), who also compared multilevel modeling strategies to individual and group-level OLS regressions, emphasize that when individual-level data are aggregated, researchers should expect that individual and group-level analyses of the same data might indicate relationships that differ in both magnitude and direction, since the ability to predict individual-level variation in

these models is eliminated. They similarly concluded that "multilevel-based estimates of the standard error showed considerably less bias than OLS-based estimates," and that OLS analyses were less efficient than multilevel analyses (p. 433).

For governance researchers, the most important advantage of multilevel modeling is the expanded possibilities it creates for investigating hierarchical relationships and the influences that policy, administrative, and structural variables might have at the client or constituent level. Bryk and Raudenbush (1992) criticized the neglect of hierarchical relationships in traditional OLS approaches as fostering "an impoverished conceptualization" that has discouraged the formulation of hypotheses about effects occurring at and across different levels. While Goldstein (1992) also sees multilevel modeling as a potential "explorative tool for theory development," he cautions—and we strongly concur—that exploratory analysis should not be substituted for theory-based research and that multilevel models should not be seen as a panacea for all types of complex data analysis problems. Complex methods cannot overcome weak conceptualizations in poorly designed research.

## DATA FOR GOVERNANCE RESEARCH

Decisions about appropriate models and methods are inexorably intertwined with the limitations of available data. Ann Chih Lin recently questioned whether advancing the empirical study of governance would induce a push to create mammoth data sets and their subsequent analysis and reanalysis.[16] She observed that the developing of large-scale, hierarchical, and/or longitudinal data sets that might support more sophisticated research techniques such as advanced time series analyses and multilevel modeling requires substantial resources that might otherwise provide support to many smaller projects.

Gill and Meier (1999) advocate the formation of larger-scale data sets, as they call attention to the absence of "a collection of core data sets" (p. 3) to support public administration teaching and research. They attribute some of the challenges encountered in building a cumulative body of research in public administration to a lack of data sets that might promote greater interaction among researchers and more opportunities for collaboration and replication of research models and findings.

Economists, sociologists, and other social scientists often use large data sets such as the Current Population Survey, the National Longitudinal Surveys, the Panel Study of Income Dynamics, and the General Social Survey. Some larger data

[16]From comments prepared for presentation at the Workshop on Models, Methods and Data for the Empirical Study of Governance and Public Management, University of Arizona, May 1999.

sets are currently available to governance researchers, including the International City Management Association survey of personnel, the Bureau of Census Survey of Local Government Finances, The State of the Nation's Cities: A Comprehensive Database on American Cities and Suburbs, and others. For the most part, however, scholars engaged in governance research have had to assemble data sets on their own, frequently drawing from multiple and sometimes inadequate sources.

If one were to create a core data set for public administration research, what variables and measures should this large and presumably longitudinal data set include? What level(s) of government or public administration should be the unit of analysis? Would data be collected at multiple levels of administrative hierarchy within multiple levels of government? What types of public policies or policy areas should be covered in the core public administration data sets? The seemingly infinite possibilities and potentially immense size of such data sets raise additional questions about where to begin and how data sets such as these might be funded and managed.

Gill and Meier (1999) also acknowledge positive aspects of the data problem, in that public administration researchers may have become more aware of issues pertaining to data reliability and validity in the course of searching for a wider range of data alternatives. Governance scholars have used administrative data from public programs, survey and interview data, congressional records and other data from public archives, and data collected during randomized experiments. Some of these and some other data sets are not well tailored to research uses, however, compelling researchers to become more familiar with the data in order to verify their reliability and accuracy.

**Administrative Data**

Administrative data are regularly and consistently collected in support of an organization's function and stored within that organization's information system (Goerge 1999, 1). Goerge describes two basic functions of administrative data systems: generating reports for accountability or reimbursement from an external agency; internal client tracking and monitoring of services delivery. While Goerge suggests that data collected for the latter purpose are more likely to be useful to researchers, from the perspective of a governance researcher, both types of data offer interesting possibilities for the study of governance and performance.

Some of the primary advantages of using administrative data include: detailed information about clients, their progression through program treatments, and outcomes; complete coverage of service populations; longitudinal data on participants for some programs; and the relatively low cost of obtaining these data for multiple programs or fiscal years (Hotz et al. 1999). Some administrative data allow researchers to develop measures of program processes at the client and/or staff levels and to monitor changes in program treatments and service delivery approaches over time. Administrative databases have now been developed for nearly every federal and state program and for many general populations as well, covering many domains of an individual's life course (Goerge 1999).

When it is possible to link individual-level administrative data with data from other agencies, the potential for more comprehensive analysis of individual service trajectories and program outcomes may be enhanced significantly. Researchers from the Department of Economics at the University of Missouri-Columbia, for example, have arranged with the state of Missouri to maintain administrative data from Missouri's Departments of Economic Development, Labor and Industrial Relations, Elementary and Secondary Education, Social Services, and Higher Education. These data are facilitating research on the efficacy of public programs—education, job training and welfare-to-work—with information about administrative procedures and program services, participants and nonparticipants, client flow between metropolitan areas and labor markets, employers, and earnings, as well as information about individuals' access to public services. These researchers are also testing new nonexperimental methods of program evaluation to assess individual-level outcomes of diverse training and welfare-to-work programs across the state (Mueser, Ryan, and Thielbar 1998).

There are important limitations to the use of administrative data, however. The quality of administrative data and its potential utility to researchers varies considerably across agencies and programs. Regular and systematic checking for administrative data quality is seldom performed by public agencies, which makes it imperative for researchers to evaluate and meticulously clean data before using them. In addition, when researchers link data sets from more than one agency or program, or from local offices that report to a single state or regional agency, they should ascertain whether standardized data collection procedures were followed and verify that data fields are comparable. If researchers do not have information about how programs are managed and how the data are collected and used by program administrators and staff, there is greater potential for

misinterpretation or misuse of data fields in research: "[T]here is no substitute for an in-depth knowledge of the administration of the program or service system from which the administrative data originates" (Goerge 1999, 15).

Costs are also involved in accessing and storing administrative data on an ongoing basis, and issues of permission and privacy protection may sometimes complicate or delay data access and transfer. Hotz et al. (1999) advise that confidentiality protection and disclosure procedures for large-scale, national data sets may not apply to administrative data sets, as administrative data typically cover more select populations. It is more difficult to prevent disclosure of individual identities while at the same time preserving information that facilitates data linking across agencies or programs. More formal data-sharing agreements between states are also needed to promote data transfers and linkages that will enable studies to address broader populations and produce generalizable findings. In general, developing large-scale, linked administrative data sets may be an arduous and incremental process—one that builds slowly through local collaboration and that expands over time as partnerships, trust, and agendas for research grow.

### Other Data Sources

While administrative data are likely to become an important component of future public administration data sets, other data such as that from surveys and interviews continue to generate useful information for governance research. Although survey data typically do not cover complete service populations, researchers have designed surveys to cover a broader range of topics beyond those that are relevant to program administration, including more detailed information on individuals' backgrounds and outcomes. In addition, while the time frame covered for administrative data is typically limited to that of individuals' program participation or interaction with public agencies, surveys may facilitate the collection of data from individuals or households following their participation in or interaction with a program or agency. Surveys also may obtain comparable information from individuals who did not participate in a given program, or from the program administrators and staff operating public programs.

Given the relatively high per-case cost of survey research, combining survey data with administrative and other data from public records may also provide researchers with an option for balancing the costs of data collection. These data in tandem may provide information about legislative and policy directives, rules and procedures, and some other parameters of program or agency

operations, as well as information about the contexts or political environments within which the programs operate.

Numerous studies have combined multiple sources of data in conducting governance research. As early as the late 1960s, Blau and Schoenherr (1971) gathered data from the administrative records of state employment security agencies, from interviews with program administrators, and from Census data in an empirical study of organizational structure in these agencies. More recently, Jennings and Ewalt (1998 and 2000) linked administrative data with surveys of state job-training and welfare-to-work program administrators about program goals, priorities, and implementation strategies to generate empirical measures of political and policy variables. Lyons, Lowery, and DeHoog (1992) used data from telephone surveys with urban citizens and information about municipal services to test the Tiebout hypothesis about citizens' satisfaction with public services.

In recent employment and training research, Heinrich and Lynn (2000) combined experimental (survey) data from the National JTPA Study, administrative data from service delivery areas, and data from public archives to analyze the influence of organizational structure and management policies on participants' earnings outcomes. Ferguson (1991) also used administrative data from Texas school districts, along with Census data, to evaluate the influences of structural, technological (teaching), and environmental factors on students' test scores. Many examples of similar research in the study of education could be listed here, including the application of these data in multilevel modeling studies.

Although combining data from multiple sources to expand research possibilities can be useful, some caution is warranted. In their discussion of data collection for experimental and nonexperimental evaluations, Sherwood and Doolittle (1999) suggest that the mixing of data from different sources (such as data from management information systems and survey research) may not produce accurate measures across observations or levels, particularly when data are obtained from different sources for experimental and control or comparison groups. If measures of individuals' earnings are obtained from employment security data for some cases, for example, and survey data are used to construct earnings measures for those whose earnings are not available from employment security records, researchers should attempt to verify the comparability of these measures.

Finally, as we suggest throughout this article, there will always be an important role in governance research for qualitative data—obtained from case studies, observations, interviews,

and other field research techniques. Qualitative data aid in the formulation of research hypotheses, in the specification of statistical models, in interpreting model findings, and in informing policy discussions based on empirical results. In addition—particularly when data are drawn from administrative records, from surveys of program administrators, or from other public archives—an in-depth knowledge of the government program or service system that can typically only be gained through qualitative techniques is frequently essential to appropriate use of these data. Recent research by Heinrich and Lynn (2000); Riccucci and Meyers (1999); Roderick, Jacob, and Bryk (2000); Sandfort (2000); and Selden (1999), among others, illustrates the value of qualitatively derived knowledge in empirical studies of public program processes and outcomes. Similarly, Sherwood and Doolittle (1999) point to the value of ethnographic research in experimental evaluations, which, when it is combined with typical quantitative measures of program implementation, helps to show how program services are viewed and experienced by participants—as well as those who choose not to participate—and improves one's understanding of observed program impacts.

In their extensive review of econometric methodologies for investigating the effectiveness of public programs, Heckman, LaLonde, and Smith (2000) conclude that "too much emphasis has been placed on formulating alternative econometric methods for correcting selection bias and too little [attention] given to the quality of the underlying data" (p. 3). They suggest that more effort should be invested in improving the quality of data used in studying the effects of public programs than in developing the methods to overcome problems generated by inadequate data. While their research has focused mainly on assessing experimental and nonexperimental methods of program evaluation, this insight likely applies to the study of governance and public management as well.

## CONCLUSIONS

The challenge that faces governance researchers is to explain government results, outcomes, impacts, or performance in ways that (1) recognize the configurational, political, and loosely coupled character of administration, and (2) allow for the separate identification of governance arrangements and of public management on outcomes of interest while controlling for other factors that affect them. Except for the rare case of an altogether decoupled system, where single level models may suffice, most governance research questions require models, or at least theoretically informed awareness, of multiple levels of interaction in a governance regime.

The identification of a logic of governance can be a first step toward framing theory-based governance research. In this article, we argue for the utility of a logic based in political economy literatures. Researchers may identify other integrating logics that draw from different assumptions about actors and relationships among them. At a general level, these various logics call attention to a number of potential model components, including environmental factors, client or recipient characteristics, primary work processes, organizational structures, managerial roles and actions, and outputs or outcomes. Studies that focus on a particular organization or subprocess within a governance regime, neglecting the context of a wider system, do not always account for the potential influences of other levels or components. For researchers who are concerned about policy design and implementation, however, locating theory-based research within a logic of governance is integral to producing fuller and more rigorous understandings of governance.

In analyzing more complex models of governance, methods and data that allow for the opportunity to explore heterogeneity across sites, offices, or programs, as well as at different operational levels within sites or programs, are essential. However, the configurational, political, and loosely coupled nature of governance points to the challenges inherent in any methodology or data used in studying a governance regime and its consequences. Multilevel methods introduce some potential for exploring specific aspects of governance of interest to researchers, such as cross-level effects; and linking administrative, survey, and other data sources often provides opportunities to account explicitly for different components of a governance regime that a single data source does not allow.

Still, the complexity of governance systems anticipates the challenges in this area of research. Inevitably, governance researchers make simplifying assumptions, use methods that are less suited to the true model than to the data available, or measure crudely that which we know is much more complex. Research on governance regimes, especially under less than ideal conditions, requires transparent and focused discussion of exactly what is measured and explained in these models, as well as the limitations on findings attributable to the models, methods, and data employed. Framed and interpreted through a logic of governance, such research can produce enduring knowledge about how, why, and with what consequences public-sector activity is structured and managed.

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