

James M. Ferris
Elizabeth A.
Graddy
*University of
Southern California*

A Contractual Framework for New Public Management Theory

ABSTRACT: This paper evaluates the potential for institutional economics to help us frame choices for the design of institutional arrangements aimed at improving public sector performance, and the lessons it offers for the development of a new public management theory. It defines the key elements of transaction cost and principal agency theory and their application to the public sector. Local government contracting, fiscal decentralization, and performance budgeting, applications that share problems resulting from divergent objectives, information costs associated with policy making and implementation, and risks to public sector accountability, are analyzed. This analysis demonstrates that institutional economics can illuminate how public management can effectively utilize private sector solutions by providing the theoretical underpinnings for government reform initiatives.

For the last two decades, a premium has been placed on getting more out of public sector resources. Numerous strategies have been advanced in this pursuit. In the U.S., reinventing government has become a shorthand for these efforts (Osborne and Gaebler, 1992). In other settings, like the U.K., these efforts fall under the rubric of the New Public Management (Hood, 1991). Regardless of the term used, such initiatives transcend national boundaries—developed and developing countries, East and West—and penetrate policy arenas as diverse as education, health, transportation, and telecommunications. The challenge facing scholars in public

Direct all correspondence to: James M. Ferris, School of Policy, Planning, and Development, University of Southern California, Los Angeles, CA 90089-0626. *e-mail:* jferris@usc.edu. Elizabeth Graddy, School of Policy, Planning, and Development, University of Southern California, Los Angeles, CA 90089-0626. *e-mail:* graddy@usc.edu.

management is to provide a theoretical framework that helps to explain the promise of these initiatives, both theoretically and in practice.

This is no small task. Many of the policy discussions rely, to varying degrees, on a blend of anecdotes, ideology, faith and hope. There is a real need to understand that the success of the various initiatives are contingent on the context in which they are initiated. At the same time, the discussions either ignore distinctions among initiatives, or fail to understand similarities. For example, privatization and competition are often incorrectly used synonymously. Efforts to move to output measurement are often discussed independently of market mechanisms, but in fact are often sought to simulate markets. Moreover, the field itself tends to move from one fad to another, without developing a theoretical base of knowledge.

Recent developments in the new institutional economics offer an opportunity for public management scholars to enhance our general understanding of how best to organize our responses to collective problems. The hallmark of the new institutional economics is the application of a market, or exchange, framework to institutions and organizations (Eggerston, 1990). Two important strands in this emerging field are transaction cost analysis and principal agent theory. This paper explores how these models can help to frame the choices and the consequences of adopting a contractual approach to public service delivery.

Transaction cost analysis emphasizes the role of information costs in determining the appropriate organizational context for carrying out exchange transactions. Principal agent theory defines the issues that arise when the parties to a contract have divergent goals and there is information asymmetry between them. These models provide a basis for a formal model of contractual relationships that is useful for understanding how governments organize for the production of publicly provided services. It may also be extended to examine other production arrangements where the contract is more implicit, such as intergovernmental grants and public budgeting decisions.

More precisely, we will interpret contracting for government services, decentralizing fiscal relationships, and performance-based budgeting as contractual relationships, with *potential* principal-agent problems. The principal (the contracting government) and the agent (the private contractor, state government or public bureau) may have differing objectives, and the agent may possess an informational advantage that can be used for its own strategic advantage. Thus, such arrangements, which are often pursued for efficiency gains (reduced production costs) may require significant transaction costs in order to ensure public accountability.

The next section briefly sketches the key elements of transaction cost and principal agent theory and their application to the public sector. This is followed by an analysis of local government contracting, fiscal decentralization, and higher education finance. These applications emphasize the problems that result from divergent objectives on the part of principal and agents, the costs of information associated with policymaking and implementation, and the risks to public sector

accountability. Potential sources of public sector failure, alternative institutional designs and their likely consequences are highlighted. The concluding section evaluates the potential for these models from institutional economics to frame choices for the design of institutional arrangements aimed at improving public sector performance, and derives the lessons they offer for the new public management.

TRANSACTION COSTS AND AGENCY THEORY IN THE PUBLIC SECTOR

Transaction Costs

Transaction costs are the costs (other than price) associated with carrying out two-sided transactions—i.e., the exchange of goods or services from one individual to another with agreed upon payment for performance. These costs vary with the nature of the transaction and the way it is organized. Coase (1937) argued that transactions would be carried out within the organizational mode that minimizes transactions costs (e.g., either in the market or within formal organizations). In other words, an organization's decision to either to buy a product or produce it internally will depend on the relative transaction costs.

The most important transaction costs are those associated with acquiring information related to the exchange. For example, who will carry out needed transactions and how?; how do we ensure that both parties to the transaction fulfill their obligations? Within the market, there are costs associated with discovering the distribution of prices and product/service quality, and with finding providers. Within hierarchies, there are costs associated with transmitting information through the hierarchy, with implementation and with communication. In both markets and hierarchies, there are information asymmetry issues between parties to the exchange that allow opportunistic behavior and its associated costs.

Transaction attributes that affect the choice of organizational form include the frequency of the transaction, its complexity, the extent of uncertainty, the extent to which performance is measurable, and the specificity of the required assets. For example, transactions with more measurable outcomes are more likely to occur in markets. Williamson (1975, 1985), who has advanced much of the theory around transaction costs, emphasizes the importance of uncertainty and bounded rationality in the choice between markets and hierarchies. For example, the more uncertainty, the more likely the transaction will be handled within a hierarchy.

Therefore, transaction costs determine the organizational context in which transactions occur, and thus their nature. If the transaction is defined with a contract (either formal or informal) then issues that arise include the limits that bounded rationality and uncertainty impose on contract writing, and the consequences of opportunistic behavior resulting from information asymmetry and divergent goals on contract fulfillment. Much of the efforts to address contract-related transaction costs have focused on a class of exchange relationships

characterized as principal-agent relationships. These are discussed in detail in the next section.

Principal Agent Theory

Principal agent theory initially developed from an attempt to understand and resolve the dilemmas of incomplete information in the design of contracts.¹ Agency problems arise in contracts when the two parties have divergent interests or objectives and the agent has an informational advantage over the principal.² An adverse selection problem arises when the principal is not fully informed about the abilities of the potential agents, and therefore may make an unwise agent choice. A moral hazard problem arises once the contract has been agreed to and the agent, realizing the informational advantage, does not meet the terms of the contract.

The principal, aware of potential agency problems, wants to guard against opportunistic agent behavior by developing an effective contracting process. Three factors shape this process: the costs of obtaining information, both the information needed to select the appropriate agent and the information needed to effectively monitor and enforce a contract; the uncertainty associated with the production process; and the risk preferences of the actors. The information costs involved with agency problems vary with the nature of the activity being contracted. Contractor choice requires that the principal has information on the abilities of the agents. Effective contract writing requires information on the cost function of the activity, including the production function and input costs. The costs of enforcing the contract depend on the measurability of the agent's behavior (effort), and the agent's performance (the outcome of that effort).

There is often considerable uncertainty associated with the translation of agent behavior into outcomes. The more difficult or expensive it is to gather information on outcomes (i.e., performance), the more likely it is that contracts will be based on behavior. Thus the ability to measure performance is a critical determinant of contract terms.

The agent, of course, is unlikely to be indifferent about the nature of the contract. A risk averse agent will not be inclined to accept a performance-based contract if there is a high degree of uncertainty associated with the behavior outcome process, since such a contract shifts risk from the principal to the agent. If there is a distribution of risk aversion among potential agents, a contract can be consummated. Otherwise, there will be limits to the principal's ability to find interested agents. Clearly, the nature of the supply side of the contractual market influences the terms of the contract.

Public Sector Applications

Transaction cost analysis and principal agent theory have much to contribute to our understanding of existing governance structures as well as their reconfiguration to improve public sector performance. As governments, seeking greater effi-

ciency, increasingly use contracts to restructure institutional arrangements, the need to ensure public accountability becomes more critical. The process of assuring accountability generates significant costs—and these are transaction costs. Therefore, transaction cost analysis provides a framework for recognizing the cost trade-off between efficiency and accountability. Its focus on the role of information costs in determining how to efficiently organize transactions enables us to evaluate alternative institutional arrangements—e.g., internal production versus external contracts for service delivery; and the use of mandates versus subsidies in intergovernmental relations.

The nature of public services are such that many transactions involving them can be characterized as principal agent relationships. The outputs of public activities are often difficult to measure, many of the production processes are characterized by uncertainty, and agents/contractors may well have objectives that differ from those of government. Thus, there are opportunities for opportunistic behavior by contractors. The insight that principal agent theory offers on how to design structures that minimize opportunistic behavior increases the chance that the goals of the public sector can be achieved within a contractual arrangement.

In applying these models to public sector issues, however, it is important to tailor them to the public context. Several measurement issues are common to public sector transactions. One problem results from the efforts of many public programs to change behavior, which means that the behavior-outcome relationship is not simply determined by the agent's behavior. Another problem arises from the lack of tangibility of many public services (e.g., social services), which makes it difficult to write, monitor and enforce contracts. Still another problem arises from the absence of consumer feedback, through revealed behavior, on the value of services.

Public sector applications also require modifications due to the essential nature of government, which determines the degree of competitiveness in the contractual process, and introduces the possibility of multiple principals. Contractual relationships between public funding bodies and service delivery organizations may or may not be competitive. Oftentimes, the limiting factor is not the inherent nature of the market, but rather the politics of service delivery. For example, school boards cannot really choose which public schools to fund or not based on a competitive contractual process. Similarly, it may not be politically feasible for a state government to choose some local governments over others.

Funding bodies often make relative funding decisions—i.e., how to allocate funds among possible recipients, rather than dichotomous choices—i.e., to fund or not. While it is unlikely that government would have the political will to allow one of its own organizations to fail, it may reward those that succeed. Many of the contractual processes found in the public sector are characterized by negotiation or cooperation rather than competition (DeHoog, 1990). While there is an effort with some reforms to expose public organizations to market forces (e.g., the choice movement

in education), many public sector reforms emphasize negotiated contracts and internal incentives (i.e., creating quasi-markets internal to the public sector).

A perplexing dimension of public sector applications of principal agent theory is the existence of multiple principals. Moe (1984) has suggested that government is a serial set of principal agent relationships with citizens as the ultimate principal (e.g., citizens and their representatives; representatives and the executive branch; and superior-subordinate relationships within the bureaucracy). However, in a pluralistic democracy, various groups have an interest in the outcomes of public policies and programs and can impact the policy process at various points. In heterogeneous societies, these groups are likely to send conflicting signals. For example, local government officials in a federal system have to respond to the desires of the central government as well as the demands of their local constituencies. Conflicting pressures from multiple principals make it difficult to predict agent responses.

Despite the necessity for care in their application to the public sector, these models from institutional economics are useful for explaining contractual relationships in the presence of the information asymmetry, divergent objectives, and uncertainty that often characterize public sector transactions. First, these models help us understand the dilemmas inherent in such relationships and thus the issues we must confront. Second, the models suggest institutional and contract design characteristics that can minimize the costs associated with carrying out transactions and with agency problems. Third, the emphasis of these models on information costs highlights the costs associated with balancing efficiency and accountability, and thus alerts us to the possibility that reforms may not perform as well as expected. The costs of assuring accountability are often overlooked in the advocacy of reforms designed to improve public sector performance.

CONTRACTUAL APPROACHES TO PUBLIC SERVICES

In this section the insights from institutional economics are applied to an analysis of three important and recurring reform initiatives to improve public sector performance in service delivery—government contracting, fiscal decentralization, and performance budgeting, and lessons for the new public management are derived. Through these examples, we demonstrate the usefulness of transaction cost analysis and principal agent theory in helping to frame the dilemma between efficiency and accountability, identifying contract designs that minimize the costs associated with resolving this dilemma, and revealing how solutions are likely to blunt the advantages ascribed to reforms (e.g., privatization, competition, and decentralization).

Local Government Contracting³

Governments have traditionally organized production through their own agencies and bureaus. The promise of lower production costs in private organizations

and greater flexibility suggest that a government might be able to reduce service delivery costs through contracting with an external producer (outsourcing). Contracting for services may yield cost savings by exploiting economies of scale,⁴ circumventing civil service and budgetary rigidities,⁵ or avoiding perverse managerial incentives.⁶ But, without assurances that contractual obligations will be met, governments may be reluctant to contract.

Such assurances may require significant transaction costs, either in selecting contractors and writing contracts, or in monitoring and enforcing contracts. The government is unlikely to have complete information on the capacity of bidders to perform to contract specifications, thus creating an adverse selection problem. To increase the probability of selecting the best contractor, the government incurs information costs. The contractor's information advantage also creates moral hazard problems at the monitoring and enforcement stage. In cases where it is difficult to monitor performance, the contractor may be tempted to act opportunistically.

The government may seek to minimize these problems through contract design and administration. Contract specification requires that one can define and measure the quantity and quality of the service and determine the conditions under which the service will be delivered. Such tasks are facilitated when the service is characterized by relatively constant citizen preferences and known cost conditions. Contracts must also be monitored and enforced. The feasibility of measuring performance is critical. It must be technically possible to measure outputs, both quantitatively and qualitatively, and at a reasonable cost. This condition is more likely to be met when services are tangible or "hard," (e.g., garbage collection or road repair), as opposed to "soft," (e.g., as mental health and child care services).

A government's decision on whether to contract is likely to hinge on the relative importance it ascribes to efficiency and accountability, as well as its ability to structure production arrangements that resolve principal agent problems. One possible solution is to focus on contract design.⁷ This solution is likely to be attractive for services where production cost savings can be realized (e.g., significant scale economies exist, and where the tangibility of the service makes it possible to develop output-based contracts).

But what if the promise of production savings is not great or the resolution of the principal agent problem is more problematic. In this instance, it is possible that the government might seek to strike a balance between the objectives of efficiency and accountability by selecting a contractor perceived as more trustworthy (e.g., a non-profit organization rather than a for-profit firm).

One of the virtues of the nonprofit sector is its responsiveness to demands for collective goods, particularly in the case of heterogeneous preferences (Weisbrod, 1988). The contract writing costs for government are likely to be decreased, either because the nonprofit organization's record of service provision is satisfactory or the nonprofit organization helps to write the contract through cooperative negotiations (DeHoog, 1990). In addition, there are potential savings in monitoring costs

associated with the nonprofit form. Nonprofit organizations, due to the lack of a profit motive and their keen interest in the service, are often assumed to be more trustworthy than for-profit organizations.⁸ Nonprofit organizations may thus reduce transaction costs, at the contract writing and monitoring stages, and thereby become a preferred option for cases where there is a threat to public accountability.

To summarize, an understanding of transaction costs and agency problems provides a general framework with which to consider the contracting decisions of local governments. The decision, framed as a tradeoff between the production and transaction costs associated with efficiency and accountability goals, enables us to predict the type of services that can be contracted with a reasonable expectation of reduced total costs. Moreover, it highlights the need and means for governments to carefully structure the contracting process in order to realize the potential efficiency benefits of contracting without undue exposure to the threat of opportunistic behavior by contractors.

Fiscal Decentralization⁹

In a federal system, central governments have the option to improve service delivery by capitalizing on the knowledge that lower-levels of governments have about the preferences of their constituents and about jurisdiction-specific costs and capabilities. However, delegating service delivery decision making to state or local governments (i.e., decentralization) raises principal-agent issues and thus poses a risk to national policy objectives.

Consider the scenario of a higher level (e.g., national) government debating decentralizing authority and responsibility to a lower level (e.g., subnational) government. The national and subnational governments each pursue their own objectives, which are likely to diverge since they represent different constituencies. The goal divergence poses a danger to the fulfillment of the national government's objectives if the national government lacks information about the subnational government's performance and/or its ability to alter its behavior at a reasonable cost. The information advantage the subnational government has with respect to its own objectives and abilities creates an opportunity for it to pursue its own objectives, at the expense of national government goals.

Intergovernmental transfers can thus be viewed as contractual exchanges. The higher level government seeks to use the knowledge and abilities of the lower level government to achieve its desired outcomes. The lower level government has potentially both the different goals and the information asymmetry that characterize principal agency relationships. The dilemma for the national government is how to develop fiscal strategies that reduce the ability of lower-level governments to thwart its goals, taking into account its own objectives, the information requirements (i.e., transaction costs), and subnational governance capacity. Two key strategies are subsidies (e.g., intergovernmental grants) and regulations (e.g., funded

mandates). The informational needs, and thus transaction costs, required to implement these strategies differ.

Selective matching grants are used to provide incentives for the subnational government to provide more of the service than they otherwise would. A matching grant induces the grantee to provide more of the service by lowering its price (the precise impact of which is determined by the price elasticity of demand). Less *ex ante* knowledge about production technology is needed with the use of subsidies, but there is more uncertainty about the response of the subnational unit. To increase the probability that the subnational government responds as desired, the national government can attach conditions to the fiscal transfers. For example, to ensure that the lower-level government maintains its current effort in providing the service, and does not merely substitute national government dollars for subnational government dollars, a maintenance of effort provision could be added.¹⁰ In addition, the national government may want to attach auditing and accounting procedures that enable it to better monitor the expenditures of funds, especially when the quality of the service output is difficult to measure.

Regulations coupled with funding enable a government to apply an objective consistently across subnational governments. Writing an *effective* regulation requires considerable information. Knowledge of the range of production functions and fiscal capacities across jurisdictions is required. A regulation that doesn't reflect a comprehensive understanding of service delivery capabilities can be more easily undermined by subnational governments with divergent objectives.

Monitoring subnational government performance is an important component of both regulatory and subsidy strategies, and the information costs associated with monitoring is determined by the nature of the service. Government services vary in terms of the feasibility of measuring inputs and outputs. The production and cost functions for some services such as housing and sewage treatment are well known, while those for other services such as crime prevention and health are not. The central government can most successfully use mandates when outputs are easily measured. If both costs and outputs are easily known, the central government can structure the grant as a contract that is enforceable.

When the cost of measuring inputs and outputs is too high, however, the national government may instead decide to mandate expenditure levels or use subsidies to encourage subnational governments to expend at desired levels. Subsidies, especially those in the form of close-ended grants, are likely to be fungible, but they offer the advantage of allowing the use of localized collective choice processes to monitor subnational service delivery performance.

Of course, the ability of subnational governments to improve on the national government's service delivery capability (and thus yield benefits from decentralization) depends on their performance effectiveness. Gains are more likely if subnational governments are run by public service professionals, are held accountable by their constituents, and compete with other jurisdictions at the same level. If these gov-

ernments are no more efficient or responsive than the central government, which may occur if citizens are discouraged from monitoring government operations, the argument for mandates, as opposed to fiscal incentives, becomes stronger.

To summarize, the insight that institutional economics provides to our understanding of fiscal decentralization is its focus on information costs. These costs, which vary by service and jurisdictional context, should play a major role in the strategy choice between regulations and subsidies if our goal is effective fiscal decentralization. Without sufficient attention to information requirements and appropriate restrictions on opportunistic behavior by subnational units, decentralization is unlikely to yield outcomes that satisfy national objectives. Moreover, the focus on differential information costs enables us (as in the contracting case) to predict the services that are more likely to be effectively decentralized.

Performance Budgeting

A third strategy that governments have pursued to improve the service delivery performance of organizations they control and/or finance is performance budgeting. Governments have sought to determine budget allocations based on contractual arrangements between the funding bodies and the producing organizations, thereby creating a quasi-market within the government structure. This forces public agencies producing the same services to compete against each other (or, as in the case of competitive tendering in the U.K., with private producers) based on production performance, rather than budgetary politics.

This budget reform has drawn considerable attention in education as governments have sought to improve the performance of schools and universities. Here, we consider performance budgeting in the context of universities.¹¹ Public support of universities represents an implicit contract between the government and the institution. The terms, however, have traditionally been vague; the government provides funding on the assumption that the institution delivers instruction, research, and public service. Recently, in an effort to improve the effectiveness of public dollars going to higher education, governments have sought to more explicitly define the contract terms. Governments are making budgeting decisions based on institutional performance in an effort to make universities more responsive to public policy objectives (e.g., cost savings, increased academic quality, increased graduation rates).

The extent to which an explicit contract system can induce the desired institutional performance is dependent on system design and implementation. The contract process typically envisioned allows for considerable bilateral negotiations, rather than sealed bid procedures. For example, universities in Australia are required to prepare institutional profiles detailing information on current and projected activities, which is then used as the starting point in negotiations. Having this information allows the government to better evaluate the capacity of the university to contribute to national objectives.

Simply having the relevant information is, of course, insufficient for achieving the government's objectives. It must develop a scheme to induce the desired behavior without incurring transactions costs that outweigh the gains from altered behavior. The government may use the budget structure to create incentives for the universities to contribute to public policy goals. Over time, competition for funds should result in enhanced system-wide performance as the more responsive institutions expand at the expense of less responsive ones.

Two potential contractual approaches are comprehensive contracts and segmented contracts. The comprehensive contract is ambitious in that it attempts to ensure state influence in a wide range of areas. However, the transactions costs involved in contract writing and enforcement can be prohibitive. An alternative design is a two-tier budgeting system, with one fund for the institution's general activities such as instruction and research, and another for new or special projects. The advantage of this design is that one can create incentives for performance without prohibitive administrative costs. Assuming that the government is not going to force drastic cuts, there is little reason to incur costs to affect resource allocation decisions for general, on-going activities. For the special projects, the government can request bids from institutions and choose the preferred provider. For new programs that are deemed to be successful, funding can eventually be integrated into the recurring (operating) budget.

This two tier funding system is evident in the increased separation of funding for teaching and research activities of universities. In many instances, governments have tried to prod universities to improve their research performance through the use of a competitive grants process, while the funding for teaching remains part of the core institutional operating grant, which is typically negotiated. The main negative effects of this separation are borne by those doing research in non-priority areas (i.e., on subjects for which external funding is not available), and those who are not productively engaged in research, both of whom will face a withdrawal of support.

In summary, many governments believe that universities are not sufficiently responsive to the needs of society and the economy. The lack of responsiveness may productively be viewed as the result of divergent government and university objectives. In response, many governments have attempted an incentive approach (performance budgeting) to better align institutional behavior with government-defined national objectives. This analysis suggests that the success of this contractual approach to higher education finance depends on how sensitive the contract structure is to information requirements and the transactions costs associated with contract enforcement.

LESSONS FOR THE NEW PUBLIC MANAGEMENT

These analyses of the three reform initiatives demonstrate the usefulness of institutional economics in highlighting pivotal issues in the design of institutional

arrangements for improved public sector performance. The judicious application of transaction cost analysis and principal agent theory can illuminate how public management can effectively utilize private sector solutions by providing the theoretical underpinnings for government reform initiatives, and helping to move beyond the rhetoric of the “new public management” movement to results. From our analysis, we derive four specific lessons for the new public management.

1. *First, information asymmetry is a generic problem underlying many of the tensions in public management.* Constituents expect public officials to be effective stewards of their tax dollars. It is thus the responsibility of those officials to design service delivery systems that balance efficiency and accountability.¹² The design solution hinges on who has the requisite information and the appropriate incentives with respect to cost and responsiveness to public objectives.

This emphasis on information and incentives is at the heart of privatization, decentralization, and competition initiatives. In the case of government contracting, the incentives to minimize costs are critical, both to the internal versus external production decision, and the preferred organizational form of the contractor. In the case of intergovernmental fiscal relations, the emphasis is on tapping the information that resides with those at the local level to make the resource and production decisions that improve service delivery. The higher education case emphasizes incentives to make universities more responsive to society’s needs (as defined by the government) by getting them to compete for funds based on performance. Whether one frames the question as business vs. government, discretion vs. control, or competition vs. monopoly, the key issue is how to design service delivery structures that access the required information, and that create the incentives necessary to achieve efficiency, while minimizing threats to accountability.

Finally, recognition of the generic nature of the information asymmetry problem should alert scholars and practitioners that they can learn from applications other than their own. There is little evidence that, for example, designers of intergovernmental grants look to the performance budgeting literature for insight on how to solve information dilemmas.

2. *Second, there are limitations to applying models developed in the private sector to the public sector.* This is an old lesson, but one that bears repeating. Although we all wish to have a more efficient and effective public sector, it is clear that private sector solutions cannot be blindly transferred to the public sector. This is due in large part to the inherent differences between the sectors—in the issues for which they are responsible; in the nature of their decision making processes; and in the complexity of their objectives. Two differences are particularly critical. First, constituent accountability is more difficult to assure in the public sector, since it is not inherently linked to production choices as it is in markets. Second, the political system encourages the use of blunt, rather than sharp instruments, so as not to alienate political constituents.

For example, efforts to devise a set of “optimal” incentives (the preoccupation of a major strand of the principal agent literature) cause consternation (e.g., Miller and Hammond, 1994), particularly when it is suggested that fundamental problems of politics can be resolved by the mere design of an incentive structure. There is good reason to believe that the search for such a solution is misguided. In the public arena, agents have multiple principals, making the pursuit of optimal incentive structures more complex, if attainable at all.

This has led some to argue that commitment or trust might be an alternative strategy for resolving agency problems.¹³ Within a game theoretical framework, trust (norms or credible commitment) provides a counter to opportunistic behavior in repeated games. Reliance on trust, however, is more likely to be effective at a small group, rather than a system, level. Moreover, if the principal is engaging several agents, developing a commitment is more difficult and costly, and less likely to relieve the principal’s accountability concerns.

3. *Third, concern over the efficiency/accountability tradeoff has led to the adoption of “fuzzy” or hybrid solutions.* Choices among institutional arrangements need not be dichotomous (e.g., public or private production, central or subnational government, incremental or performance budgeting). Governments, in fact, face nuanced alternatives: the use of other governments or nonprofit organizations as well as for-profit organizations as contractors; mixes of mandates and incentives in intergovernmental relations; and different budgeting rules for separate funding streams. Such hybrid or intermediate designs reduce the degree of discretion or delegation, and may minimize total costs by offering the best balance between production cost savings and the transaction costs that ensure accountability.

4. *Fourth, expectations for efficiency gains from public management reforms are overblown.* Many reform proposals are oversold, creating unreasonably expectations. The principal agent framework highlights the incentive problems created by contracts with divergent objectives and information asymmetry and suggests that our ability to resolve them and the associated costs will vary with the service and its supply market. For example, contracting for local services is more likely to improve public sector performance if we have a tangible service and reasonable supplier competition. Intergovernmental grants are beneficial when subnational governments have capabilities that the central government cannot easily duplicate, either in preference articulation or effective supply arrangements. A performance based allocation of higher education funding is likely to work only if performance can be adequately measured. Institutional changes that are not matched to their contexts are less likely to generate substantial benefits, and may even decrease efficiency.

More generally, the reality of political systems prohibit the use of sharp instruments, thus blunting the incentive effects. For example, it may not be politically feasible to not fund particular local governments under a grant program, or to not fund particular universities. Moreover, the nature of public outputs raises measure-

ment issues. Many public services are not transacted in markets, and their value is thus difficult to determine. Performance may thus be difficult to measure. These problems are not easily resolved, and the expected benefits or reforms must be adjusted accordingly.

CONCLUSION

These lessons are not meant to be a counsel of despair. We must continue to develop approaches to improve public sector performance. But, we must have realistic expectations both with respect to the pace of change and the requisite knowledge. Our analysis illustrates the potential for a general framework for analyzing alternative institutional arrangements for public service performance, and identifying characteristics of contracts, either explicit or implicit, that effectively balance efficiency and accountability. Such theoretical development is necessary if we are to expand the knowledge base of the field of public administration (Kettl, 1993).

As this discussion has demonstrated, there is no single best way to design institutions for service delivery. Effective designs depend on the nature of the service, the extent of uncertainty, and the opportunity for opportunistic behavior. Actual decisions will reflect the relative priorities assigned to the competing public objectives, as well as the possibility of devising incentive schemes or other strategies to overcome agency problems. There is no panacea or single "magic bullet" for resolving the incentive problems of public sector institutions. Rather, our goal should be the development of a contingency framework that matches the parameters of the design problem with characteristics of alternative structures.

NOTES

1. Much of the early work focused on the nature of formal contracts particularly in insurance markets (e.g., Spence and Zeckhauser, 1971; Ross, 1973). But, extensions to other contracts, both formal and informal, followed rapidly (e.g., Jenson and Meckling, 1976; Harris and Raviv, 1978).
2. See Sappington (1991) for a nontechnical analysis of the incentive issues in principal-agent relationships.
3. This section is based on Ferris and Graddy (1986, 1991, 1994).
4. The scale of internal production is limited by the size of the jurisdiction. There is little reason to believe that for any given service, the jurisdiction size corresponds to the optimal scale of production. The larger the scale required for the attainment of minimum average costs or the smaller the jurisdiction, the more likely external production enables scale economies to be realized.
5. Public personnel policies limit the flexibility of managers in selecting the labor inputs due to constraints on hiring, firing, and promotion as well as compensation levels. In addition, public managers faced with separate budgetary processes for capital and operating expenditures do not always have the flexibility necessary to acquire the desired capital. Thus, the public manager has limited discretion in selecting the optimal input mix.

6. Internal production is subject to the behavioral incentives embodied in public organizations. Efforts by bureaucrats to exploit their informational advantages over legislators for larger budgets can increase production costs, and the lack of property rights to differences between budgets and actual production costs blunts efficiency incentives for bureaucrats. The monopoly power of public agencies also forecloses the possibility of competition induced incentives.
7. See Thompson (1993) for a discussion of such contract design efforts.
8. The for-profit organization has sharper incentives and fewer constraints for production efficiency than nonprofit organizations. Property rights to profits enable owners to develop managerial incentives for profit maximization, in accordance with the owner's interests. The nonprofit organization may make profits, but agrees not to distribute them to the board of directors or the managers in order to gain tax exempt status. The lack of a singular objective function makes it more difficult for nonprofits to develop strong cost-cutting incentives for its managers.
9. This section draws on Ferris and Winkler (1991). The analysis is framed as an issue of top-down decentralization, rather than a bottom-up approach. This is precisely the approach currently being considered in many countries that are trying to reduce their reliance on centralized decisions.
10. The preoccupation with the flypaper effect is evidence of the uncertainty of how grantees respond to the fiscal incentives of intergovernmental grants.
11. This section is based on Ferris (1992). This analysis refers to the case in which universities are fully funded (or nearly so) by government, as is common outside the United States.
12. The objectives of efficiency and accountability need not be in conflict, but in the context of service delivery where external production provides production cost savings, efficiency will come at the expense of accountability if monitoring is absent or insufficient.
13. DiIulio (1994) argues that the principal agent problem is overstated because it neglects the fact that there may be principled agents. But even principled agents present a problem since there can be divergent objectives between principled principals and principled agents. One does not need sinister motives to have agency problems.

REFERENCES

- Coase, R. 1937. "The Nature of the Firm." *Economica* 4(November): 386-405. Reprinted in *The Firm, the Market, and the Law*. Chicago: University of Chicago Press, 1988.
- DeHoog, R. 1990. "Competition, Negotiation, or Cooperation." *Administration and Society* 22(3): 317-340.
- DiIulio, J. 1994. "Principled Agents: The Cultural Bases of Behavior in a Federal Government Bureaucracy." *Journal of Public Administration Research and Theory* 4: 277-318.
- Eggerston, T. 1990. *Economic Behavior and Institutions*. Cambridge: Cambridge University Press.
- Ferris, J. 1992. "Higher Education 'Reform' in Australia: An Outsider's View." *Australian Journal of Public Administration* 51(3): 333-341.
- Ferris, J., and E. Graddy. 1986. "Contracting Out: For What? With Whom?" *Public Administration Review* 46(4): 332-344.
- Ferris, J., and E. Graddy. 1991. "Production Costs, Transaction Costs, and Local Government Contractor Choice." *Economic Inquiry* 29(3): 541-554.
- Ferris, J., and E. Graddy. 1994. "Organizational Choice for Public Service Supply." *Journal of Economics, Law and Organization* 10(1): 126-141.
- Ferris, J., and D. Winkler. 1991. "Agency Theory and Choice in Decentralization." Pp. 155-166 in R. Prudhomme, ed., *Public Finance with Several Layers of Government*. The Hague: Foundation Journal.

- Harris, M., and A. Raviv. 1978. "Some Results on Incentive Contracts with Applications to Education and Employment, Health Insurance, and Law Enforcement." *American Economic Review* 68: 20–30.
- Hood, C. 1991. "A Public Management for all Seasons?" *Public Administration* 69(Spring): 3–19.
- Jensen, M. C., and W. Meckling. 1976. "Theory of the Firm: Managerial Behavior, Agency Costs, and Ownership Structure." *Journal of Financial Economics* 3(October): 305–360.
- Kettl, D. 1993. "Public Administration: The State of the Field." Pp. 407–428 in Ada W. Finifter, ed., *Political Science: The State of the Discipline II*. Washington, D.C.: American Political Science Association.
- Miller, G. and T. Hammond. 1994. "Why Politics is More Fundamental than Economics: Incentive-Compatible Mechanisms Are Not Credible." *Journal of Theoretical Politics* 6(1): 5–26.
- Moe, T. M. 1984. "The New Economics of Organization." *American Journal of Political Science* 28(4): 739–777.
- Osborne, D. and T. Gaebler. 1992. *Reinventing Government: How the Entrepreneurial Spirit is Transforming the Public Sector*. Massachusetts: Addison-Wesley.
- Ross, S. A. 1973. "The Economic Theory of Agency: The Principal's Problem." *American Economic Review* 62(2): 134–139.
- Sappington, D. 1991. "Incentives in Principal Agent Relationships." *Journal of Economic Perspectives* 3(2): 45–66.
- Spence, M., and R. Zeckhauser. 1971. "Insurance, Information and Individual Action." *American Economic Review* 61(2): 380–387.
- Thompson, F. 1993. "Matching Responsibilities with Tactics: Administrative Controls and Modern Government." *Public Administration Review* 53(4): 303–318.
- Weisbrod, B. 1988. *The Nonprofit Economy*. Cambridge: Harvard University Press.
- Williamson, O. 1975. *Markets and Hierarchies: Analysis and Antitrust Implications*. New York: The Free Press.
- Williamson, O. 1985. *The Economic Institutions of Capitalism: Firms, Markets, Relational Contracting*. New York: Basic Books.