Contracting for Management: Assessing Management Capacity Under Alternative Service Delivery Arrangements

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Abstract

Contracting critics suggest that when governments outsource, they reduce their capacity to produce services and manage service delivery. In this paper, we decompose the service delivery decision into service production and service management components. When governments contract for service production, they may also choose to contract for a portion of service delivery management. Studies that only compare the management activities of contracting and direct service delivery governments, without examining the management activities contracted to vendors, are likely to be incomplete and biased. Drawing on a unique survey of governmental refuse collection service directors, matched with a survey of refuse collection vendors operating under municipal contracts, we show that the vendors' management activities offset the decline in management capacity that occurs when governments contract for service delivery for this particular service. Governments can "buy" management activities when contracting for service production. © 2006 by the Association for Public Policy Analysis and Management

INTRODUCTION

Among the more trenchant criticisms of government outsourcing is that it weakens governments, reducing their service delivery capacity. The charge is that as contracting has become more common, governments' capacities to manage services have declined along with their capacity to produce services (Kettl, 1993; Van Slyke, 2003), in spite of the fact that successful contracting requires significant managerial competence and aptitude (Kelman, 2002). However, not all evidence points to diminished management capacity as a result of outsourcing (Van Slyke & Hammonds, 2003). Moreover, while some governments may cut management capacity to save money as they contract, other contracting governments have maintained and even enhanced management capacity (Brown & Potoski, 2003a, 2003b; Oscar, 2001; Schambach & Duke, 2003–2004).

In this paper, we explore the link between contracting and service management by examining the management activities of both governments and the vendors that produce services. Unbundling service delivery into separate service production and managerial activities reveals that some activities are better performed in-house and others via contracting, depending on the transaction costs inherent in the service and how it is managed and delivered. Our analyses are thus based on a key distinc-

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tion: Service delivery contracting includes not just allocating to vendors responsibility for producing the service but also includes delegating to vendors important management responsibilities, such as monitoring the quality of service outcomes. All service delivery management need not occur within government, though effective contracting clearly requires that governments maintain some management capacity. For example, even though governments can transfer some monitoring responsibilities to vendors, they likely still need to monitor their vendors' performance to some degree (Behn & Kant, 1999; Brown & Potoski, 2003b; Kettl, 1993; Praeger, 1994). If governments include management activities as part of the bundle of delegated responsibilities they farm out during contracting, focusing on the management activities that remain with the governments can paint a misleading, and unnecessarily dire, picture of governments' management capacity for delivering services via contract. In some circumstances, governments can "buy" management activities to address deficits in their own management capacity.

We use a transaction cost framework to explain why and when governments unbundle service delivery to contract for both service production and management activities, with a focus on a critical management function—monitoring. Drawing on a survey of Ohio municipal governments, we evaluate how the contracting decision structures governments' monitoring activity for refuse collection services. In this way, we control for service type and state-level factors and focus on the impact of service delivery mode and a narrower range of alternative explanations. Our analyses show that direct service delivery governments engage in more monitoring tasks than contract service delivery governments. However, the monitoring activities vendors conduct under contract more than offset the deficit between contracting and direct service governments.

To some extent, contracting may require additional monitoring and management because contracting may be more risky than direct service delivery. We present some evidence that supports this claim; contracting governments engage in more direct monitoring when there is less market competition. Alternatively, governments may purchase more monitoring than they would have been able to conduct on their own because of contracting's scale economies and competitive efficiencies.

This paper is divided into five sections in addition to this introduction. In the first section, we decompose the service delivery process into service production and service management components, with a particular focus on monitoring. Both service production and management activities can be delegated to vendors. In the second section, we discuss the data and methods we employ to assess the influence of various factors on the variable use of monitoring tasks across governments. In the third section we report our results. In the fourth section, we discuss our findings. Finally, in the fifth section, we conclude the paper by summarizing our results and suggesting directions for future research.

MANAGING SERVICE DELIVERY

Though a notoriously complex and difficult topic of study, effective management improves government service delivery (Hill & Lynn, 2004; Hou, Moynihan, & Ingraham, 2003; Knott & Payne, 2004; Meier, O'Toole, & Nicholson-Crotty, 2004; for a review, see Boyne, 2003). The public management literature identifies a range of managerial tasks and functions necessary for successful service delivery, including: planning and strategizing; decision-making; budgeting and mobilizing financial resources; managing human resources (e.g., motivating, communicating, negotiating, bargaining); evaluating and tracking service quality (e.g., identifying perform-

ance measures, monitoring); and managing across organizational boundaries (Perry, 1996; Rainey, 1991; Starling, 1998; Stillman, 1996).

Given the rise of contracting as an alternative to direct service provision, scholars have begun to identify management competencies required to effectively manage contracts (Gansler, 2002; Kelman, 2002; Kettl, 1993; Romzek & Johnston, 2002). These tasks include assessing the appropriateness of a service for contracting (for example, Donahue, 1989); planning, structuring, and executing competitive bidding processes (e.g., Lavery, 1999; Shetterly, 2000); managing fiscal resources (e.g., O'Looney, 1998); negotiating and bargaining with vendors and employees (e.g., Gooden, 1998; O'Leary, 1996); measuring vendor performance and evaluation (e.g., Ballard & Warner, 2000; Praeger, 1994); and managing external relations to ensure market competitiveness (Sclar, 2000). One view is that these tasks are unique to managing contracts and hence governments need special management capacities, such as a mastery of contract law, when they outsource. Nonetheless, it is easy to overstate the differences in management requirements between delivering a service directly and delivering the same service via contract. In fact, the two lists of management competencies are remarkably similar. The core management tasks—planning, decision-making, monitoring, managing fiscal resources, and external relations—are essentially the same.

Unfortunately, governments do not always effectively manage service delivery via contract. A regrettable but oft-cited presumption is that governments choosing contracting reduce their management capacity in the same way that they reduce their direct service production capacity. That is, in addition to eliminating personnel and equipment associated with producing the service, contracting governments also eliminate the managers responsible for service quality and efficiency. In a study of local governments' geographic information systems (GIS), Brown and Brudney (1998) find that substantial contracting undermined local governments' management capacity, reduced GIS implementation, and lowered utilization of the technology by employees. In a study of social service contracting in New York State, Van Slyke (2003) finds that contracting counties and state agencies lacked the capacity to monitor and manage an increasingly noncompetitive social service market and thus exposed themselves to heightened risks of fraud, abuse, and poor performance. Taken together, the sense from these studies and others is that public sector contracting has diminished governments' management capacity, creating "hollow states" (e.g., Milward, 1994; Milward, Provan, & Else, 1993).

Such declining management capacity under contract need not universally occur. Some governments invest in the capacity to manage the contracting process in order to harvest contracting's promised fruits—increased efficiency, cost savings, innovation, etc. At the federal level, Kelman (2001, 2002) charts many improvements in the legal and regulatory infrastructure governing procurement. At the state level, Van Slyke and Hammonds (2003) find that privatizing a state park in Georgia actually increased management capacity. Among municipal governments, Brown and Potoski (2003a, 2003b) find that some municipal and county governments appear to have the necessary contract management tools, while others do not.

While some contracting governments may indeed abdicate management responsibilities—perhaps because they are looking to lower costs—cutting management staff and activities does not necessarily translate into reducing management capacity. Contracting requires disaggregating service delivery into discrete tasks, responsibility for which governments may then delegate to vendors through the contract or retain inhouse (Williamson, 1981). Some of these tasks are directly associated

with the production of the service, while other tasks are managerial, such as planning, negotiating, and monitoring service delivery. In the same way that contracting governments address service production capacity deficits through contracting, governments can also increase service management capacity by "buying" some managerial activity through contracting. So long as these managerial tasks can be specified in contract and implemented properly, governments can procure management activity they might otherwise have performed, or failed to perform, on their own behalf. Below we use a transaction cost framework to make the analytic case for how governments can purchase management capacity, under what circumstances, and to what effects.

Transaction Costs and Service Delivery

Transaction cost theory is conceptually attractive as a framework for studying how governments choose to deliver services because it models internal versus external production as a function of both financial and management costs (Coase, 1937; Williamson, 1981, 1996). In deciding whether to contract, governments balance production costs against the transaction costs—or management costs—associated with producing a service themselves or contracting for it (e.g., Clingermayer, Feiock, & Stream, 2003; Ferris & Graddy, 1991; Levin & Tadelis, 2004; Sclar, 2000; Stein, 1990).[1] The nature of these costs under different service provision approaches varies according to several factors, including specific characteristics of the good or service to be delivered, the degree of goal congruence between the government and those producing the service (i.e., the vendor or public employees), and external conditions such as the degree of market competition among service providers (Ferris & Graddy, 1991; Hart, Shleifer, & Vishny, 1997; Hodge, 1999; Sclar, 2000). In cases where transaction costs are low—for example, when services have easily measurable outcomes, are not prone to monopoly provision, and goal incongruence between the contracting government and the vendor can be minimized—competitive contracting can mitigate bureaucratic inefficiencies stemming from direct service delivery.

As transaction costs condition service production they may also influence the relative value of transferring service management activities from governments to vendors. Like service production tasks, management tasks have varying levels of asset specificity (i.e., specialized investments that are difficult to adapt to other uses and give rise to monopoly provision) and outcome measurability. Likewise, market competition for management tasks is likely to be stronger in some areas (e.g., large metropolitan areas) than others (e.g., small rural communities). When management transaction costs are low, governments enjoy the opportunity to contract for management tasks as they do with service production. Alternatively, when management transaction costs are high, governments face significant risks in transferring these responsibilities to a vendor.

An important task then is to identify how these transaction costs influence contracting for service production and management. Management tasks' transaction

[1] Note that there are transaction costs associated with both direct and contract service provision. For example, monitoring the actual delivery of services imposes management costs on both direct and contract service provision governments, although not uniformly. Assuming that the tasks of service delivery are observable, managers in both situations have to devote managerial resources to identifying which tasks to monitor, developing formal or informal criteria for sufficient performance, and actually watching employees or vendors perform the task. These steps may be more costly under contract because managers have to span organizational boundaries, but managerial costs exist in both circumstances.

costs partly reflect characteristics of the service. Planning how to perform an asset-specific production task requires significant managerial expertise and insight; managers need to master the complex production process in order to ensure that production tasks integrate with other processes required to deliver the service. In high transaction cost circumstances, contracting for management tasks carries significant risks, notably that the government will enter into a monopoly relationship with the vendor for both service production and management. Alternatively, when transaction costs are low, certain management tasks may be ripe for some degree of contracting, such as monitoring a production task with well-established performance measures and easily accessible performance data. Thus, the same factors that inhibit or promote contracting for production may likewise affect the value of contracting for management, so that governments may typically elect the same mode of provision for both. Governments that contract for service production are more likely to transfer some managerial tasks to the vendor.

Transaction Costs and Service Monitoring

A full theoretical account of contracting for production and management is beyond the scope of this paper. To simplify our inquiry we focus on service monitoring, an important management task whether the service is produced internally or via contract (Ballard & Warner, 2000; Behn & Kant, 1999; Brown & Potoski, 2003b; Kettl, 1993; Praeger, 1994). A key assumption of transaction cost theory is that in principal-agent relations, the agents, whether employees or vendors, are opportunistic and pursue their self-interest with guile (Ghosal & Moran, 1996). Countering opportunism requires monitoring agents' performance and sanctioning shirking, whether agents are acting under direct provision or contracts. Governments can monitor services either directly or through proxy. In direct monitoring government managers actively monitor service production processes and outcomes. Proxy monitoring refers to when governments delegate monitoring activities to another entity, for example, by empowering clients to report on the quality of services they are receiving (sometimes referred to as fire alarm oversight) (see Barzelay & Moukheibir, 1996).

Of the various sources of transaction costs, outcome measurability has the most direct impact on monitoring (Brown & Potoski, 2003c). In the case of easy-to-measure services, managers can focus more on monitoring service outcomes and less on monitoring whether agents (i.e., vendors or employees) perform the processes of producing the service (Heinrich, 2002). In such cases, external proxy monitoring becomes an attractive option, because government managers can easily verify the reporting information they receive from vendors. As a result, service delivery contracts often specify monitoring and reporting requirements vendors must perform. For example, the following clause from the current contract for refuse collection between the City of Worthington, Ohio, and a private vendor places the responsibility for tracking service recipients' complaints primarily with the vendor:

> The Contractor shall maintain telephone facilities for the receipt of subscribers' complaints and inquiries Monday through Saturday from 8:00 A.M. to 5:00 P.M. On Fridays, telephone facilities shall be maintained until 6:00 P.M. or until the collection schedule has been completed. If an answering service or machine is used after business hours, messages shall be monitored regularly. The Contractor shall handle complaints in a courteous manner, and material missed in the regular collections shall be picked up within twenty-four (24) hours, including Saturdays, after the complaint is received or

> after the material is missed. The City shall be notified by the Contractor via telephone or in person when missed collections have been picked up.[2]

For easily monitored services, contracting may reduce costs not only because vendors might produce services more efficiently, but also because vendors may perform management tasks like monitoring more efficiently. If governments are able to use contracting to tap less restrictive labor practices or managerial economies of scale (e.g., because the vendor serves multiple jurisdictions), contracting governments may be able to "buy" more monitoring than they could conduct on their own. Conversely, difficult to measure services compel government managers to conduct more direct monitoring of the service production processes. If governments have internalized service production, which is more likely to be the case for difficult to measure services (Brown and Potoski, 2003c), proxy monitoring of service production activities requires spanning organizational boundaries, a more costly approach than if the government conducted its own internal monitoring because proxy monitoring requires coordinating proxies with government actors producing the service. Alternatively, if governments elect to contract for service production, contracting governments may compound the risk of agent opportunism by transferring monitoring responsibilities as well. Contracting governments are likely to respond to sources of agent opportunism (i.e., difficult to monitor outcomes, lack of market competition) by increasing their own monitoring.

Our discussion so far raises an important issue for empirically evaluating management capacity under alternative service delivery arrangements: when studying contracting governments, analysts must take into account not only governments' management activities, but also the management activities that vendors are contractually specified to undertake as well, particularly when transaction costs are low. Analyses ignoring vendors' management activities are likely to indicate that direct service delivery governments conduct more monitoring because they have tasked their employees with these responsibilities. However, combining vendors' activities with contracting governments' activities may reduce or eliminate the disparity between direct service delivery governments and contracting governments.

DATA AND METHODS

Contracting for service management and for service production is most likely to occur when transaction costs are uniformly low. Our theoretical discussion suggests that contracting governments should perform less monitoring than direct production governments and that vendors' monitoring should at least balance the difference. If we find little contracting for service monitoring under these favorable conditions, the theoretical framework we propose may not offer value under less or more difficult conditions. To this end, we assess propositions regarding the relationship between mode of service production and contracting for management through three analyses.

First, we examine whether contracting affects the monitoring activities that *governments* perform for one commonly offered local government service—refuse collection for individual households—holding constant a variety of other factors. With relatively easily measured outcomes and outputs (Ammons, 2001; Brown & Potoski, 2005), refuse collection is a prime candidate for successful contracting. Indeed,

[2] Clause 20.2, page 23, *Solid Waste Collection and Disposal Bid Specifications and Contract Documents,* City of Worthington, Ohio, Department of Public Service, October 2001.

during the late 1960s and 1970s, refuse collection was essentially the test case for how contracting can improve service provision (Savas, 1977). We exploit variation in the mode of refuse collection to investigate whether contracting governments also transfer significant monitoring tasks to the vendors. Our dependent variables are the number of refuse service monitoring activities performed by 71 municipal governments in Ohio, 40 of which contract and 31 do not. Our independent variables include whether or not the governments contract for service delivery, plus a series of controls for factors that may also influence monitoring. This analysis shows how much less monitoring activity governments themselves perform as a result of contracting.

In our second analysis, we use the first analysis's results to estimate the number of monitoring activities that contracting governments would have performed had they delivered the service directly. A comparison based on observed government monitoring rather than the predicted values would be biased because governments that contract may be systematically different from those that do not. For example, governments in larger municipalities may be more likely to contract and conduct more monitoring activities. The predicted estimations account for the impact of other factors beyond mode of service delivery that influence the level of monitoring. We compare the predicted amount of monitoring against the *actual* number of monitoring activities the vendors perform in the municipalities that contract for service delivery. With this information, we gain insight into the level of monitoring activity contracting governments "buy" through contracting. In our third analysis, we examine variation in monitoring activities among contracting governments. This analysis explores the impact of market competition and economies of scale on the monitoring behavior of contracting governments and their paired vendors.

From May through June 2004, The Ohio State University Survey Research Center conducted a telephone survey of public service directors for all cities in the state of Ohio with populations over 15,000, according to the 2000 U.S. Census. Public service directors were identified through an Internet search and phone calls to city halls. Of the 111 such cities, 105 participated in the survey, for a healthy 95 percent response rate. Pre-survey letters were sent to each public service director describing the contents of the survey, the types of information respondents would need to answer the questions, and the estimated time commitment required to complete the survey. The survey asked a variety of questions about refuse collection services to individual households, including questions about various management activities. Interviews lasted less than 10 minutes, on average. In the handful of occasions when respondents were not able to complete the entire survey during the first phone call, interviewers arranged follow-up phone calls to complete the survey.

Of the 105 responding municipalities, 30 percent deliver refuse collection services directly (i.e., entirely through city employees), while 54 percent rely on a contract or a franchise with a private vendor or a nonprofit organization.[3] For contracting governments, respondents identified a contact name and phone number for their vendor. The Ohio State University Center for Survey Research then conducted follow-up interviews with these vendors. Again, a pre-survey letter was mailed out, signaling the contents of the survey and the expected length. Of the 57 vendor contacts identified, 40 participated in the survey, for a 71 percent response rate. The Appendix reports the descriptive statistics for the full sample. Our analyses include the 31

[3] The remaining 16% of communities in our sample have privatized refuse collection; individual households contract independently with private firms to have their trash collected.

respondents that deliver services directly and the 40 respondents that contract for service provision and for which we have a corresponding vendor match.

While Ohio cities are not strictly a representative sample of U.S. cities, they are a good place for beginning our study. The cities range in population from 15,237 to 711,470 and include both Cincinnati, an older commerce-dependent city with a declining population, and Columbus, a relatively newer city with a more diverse economic base and growing population. The state has a minority population of 15 percent (11.5 percent African American), and a median income of $40,956. Nationally, the minority population is 25 percent (12.3% African American) and the national median income is $41,994. While our study should have some applicability outside of Ohio, future research in other contexts would be valuable.

Dependent Variables: Monitoring Activities

The survey included questions about four outcome and process monitoring activities that can be performed in-house or delegated via contract to vendors.[4] First, the variable *randomly spot check* records the number of times in the last year respondents indicated that they or their employees randomly spot checked the collection of refuse and monitored the cleanliness of community streets.[5] Second, *formally tracked missed streets* records the number of times in the last year respondents indicated that they or their employees formally tracked streets and houses that were periodically missed by refuse collection vehicles. Third, *citizen surveys* records the number of times in the last year respondents indicated that their community surveyed citizens about refuse collection quality. Finally, *monitor and track citizen complaints* records the number of times in the past year respondents indicated that they or their employees formally recorded and tracked complaints from citizens about refuse collection; while all of the municipalities received complaints from citizens on a regular basis, this variable measures the amount of time respondents devoted to formally tracking and resolving the complaints.[6] This last variable is essentially a fire alarm oversight technique because it relies on service recipients to signal poor performance, although either the government or vendor could perform the compliant recording and tracking. We then recoded these variables by incorporating the responses from vendors in those instances where governments contracted for the provision of refuse collection services. The vendors were asked exactly the same questions about the monitoring activities they undertake on behalf of the government.[7]

These measures have advantages and disadvantages. On the positive side, asking respondents to indicate the number of times in the last year they or their employees engaged in the monitoring activity provides significant variability and allows for comparison across the various monitoring activities on a uniform scale. On the negative side, "the number of times in the last year" is a crude proxy for how often

[4] While there are certainly other monitoring activities, these four activities are representative of the basic types of monitoring done for refuse collection.

[5] In the case of direct service provision governments, this variable measures the number of times public managers randomly spot checked their own employees. For contracting governments, this variable measures the number of times public managers randomly spot checked vendor employees.

[6] Given that there are 260 working days in a year, we recorded all responses above this figure as 260 for each of the four monitoring tasks.

[7] The combined score reflects the monitoring tasks governments can "buy" through contracting. Combining the two values often resulted in values above 260 days per year; as we did with the unaltered monitoring values, we recoded all responses above this figure as 260.

respondents engaged in the behavior. In some cases, a more segmented metric (for instance, "daily, weekly, monthly") might better reflect actual behavior. Instead of focusing on the discrete differences in the level of monitoring across contract and direct service provision governments, we focus instead on the broad tendencies revealed in the data. In addition, one might be skeptical of vendors' responses about the degree to which they engage in monitoring. As is the case with any self-reported data, respondents can exaggerate the number of times they engage in the behavior. Because they want to appear diligent, vendors may be prone to over-report the occurrence of a behavior. However, we believe the same opportunity and motives exist for all respondents; service directors for direct provision governments may also shade the truth to make their operations appear in a better light. Consequently, we assume that any bias is randomly distributed across the sample. Nevertheless, we stick to interpreting the general findings revealed in the data and are careful not to read too much into the specific numbers.

Independent Variables

The key independent variable of interest is the mode of service delivery. The variable *contract* is a dummy variable, coded one if the government contracts for refuse collection, else zero. Our expectation is that contracting governments are also likely to contract for monitoring activities. Consequently, in our analyses of governments' monitoring activities, contracting governments should report lower activity levels. However, when we include the vendors' activities, we expect that contracting communities will have similar or greater levels of monitoring than direct service provision governments. Our analyses include important control variables, including: government characteristics; service population size; community involvement; and service performance, discussed below.

Government Characteristics. A government's overall capacity influences its ability to perform both production and managerial tasks (Gargan, 1981; Honadle, 1981). Low revenue and human resource capacity create fiscal imperatives to either not perform a function or find low-cost service delivery approaches (e.g., Hodge, 2000). In the case of monitoring, governments with low levels of revenue and human resource capacity are likely to engage in lower levels of all four types of monitoring, regardless of whether they contract for service production or not. To measure capacity, the variable general expenditures per capita reports all expenditures undertaken by the government in the 2003 fiscal year per capita.

The type of government may also influence the use of each monitoring task. The reinventing government and new public management reform movements (see for example, Osborne & Gaebler, 1992; Osborne & Plastrick, 2000) champion the notion that governments should operate more like businesses in order to improve performance. One assumption is that governments structured like private firms are more likely to behave like private firms (Kearney & Scavo, 2001). The council-manager form of government is most directly analogous to the private firm structure of an appointed CEO beholden to an elected board of directors. Following this logic, council-manager governments may be more likely to undertake each monitoring activity than those governed under alternative arrangements (e.g., a strong mayor). On the other hand, Frederickson, Logan, and Wood (2003), charting the historical development of the mayor-council form of government relative to the council-manager form, find the two are not as distinct as their stylized ideal forms suggest; council-managers governments have become more politicized and mayor-council governments have adopted many of the procedural and administrative reforms most closely

linked with council-manager forms of government. We include the variable *mayor-council*—a dummy variable, coded one if the government has a mayor-council form of government, else zero—to control for type of government.

Community Involvement. The larger context in which the government delivers services may also influence contract monitoring. In particular, communities that are more engaged in civic affairs may pressure governments to undertake more service monitoring.[8] The variable *voter turnout* is the percent of registered voters in the county in which the community is located that voted in the 2000 election. Similarly, residents with higher incomes may have high expectations for the quality of services their tax dollars fund. Consequently, governments operating in communities with higher levels of income may be more likely to engage in all of the monitoring activities. The variable *median household income* is the median household income for the community, as reported by the 2000 U.S. Census.

Service Population Size. The size of the population the government serves may also influence monitoring, although not uniformly across the four monitoring activities. The vast performance measurement literature suggests that as the size of the service population increases, governments should use more efficient information gathering mechanisms (e.g., Hatry, 1999). When there are fewer service recipients, it is easier for governments to monitor and track each service interaction, while larger recipient populations require performance measurement tools, such as surveys that harness the power of random sampling (e.g., Miller, 1994; Nightingale & Rossman, 1994). Consequently, we expect that governments that serve larger populations are more likely to employ citizen satisfaction surveys as a monitoring tool than governments that serve smaller communities. Similarly, governments that serve larger populations are also more likely to engage in random spot checks than governments that serve smaller populations, because the scale of the service population encourages the use of monitoring tools that provide a partial rather than a complete picture of service performance. The variable *number of households* is the number of households in the community, as reported by the 2000 U.S. Census.

Service Performance. Finally, current and past performance likely influence service monitoring. The desire to identify management problems and solutions is a prime factor driving the use of program evaluation and monitoring (e.g., see Ho, 2003; Wang, 2002). Governments are likely to seek to improve poor service quality, perhaps by monitoring and tracking service performance in order to hold those delivering the service accountable, whether they be direct employees or vendors (Hatry, 1996, 1999). To measure performance, the variable *average complaints per week* is the average number of complaints per week the respondents report their government receives regarding refuse collection.[9] Table 1 reports the descriptive statistics for the variables included in the analyses that follow.

METHODS

To model governments' management activities, we estimate negative binomial event count models of the form $E(Y) = households^{\alpha}\exp(X^{*}\beta)+\varepsilon$ where Y is the

[8] For a similar argument about voting turnout, collective action, and monitoring (in this case, environmental) performance, see Hamilton (1995).

[9] This variable may be problematic in that ideally it should be lagged to reflect how past performance drives current monitoring behavior. Instead, the variable measures the current average number of complaints per week. We still expect that the relationship will be the same as if the variable captured the number of complaints at some point in the past, but we are careful in our interpretation of the findings to not claim direct causality.

Table 1. Descriptive statistics.

Variable	Mean	SD	Min.	Max.	N
Dependent variables					
Randomly spot check	108.19	107.13	0	260	68
Formally track missed streets	80.04	106.75	0	260	71
Citizen surveys	1.38	5.07	0	33	71
Track and monitor citizen complaints	102.25	115.44	0	260	71
Independent variables					
Contract service provision	.56	.50	0	1	71
General expenditures per capita	.92	.41	.003	2.59	71
Mayor-council	.75	.44	0	1	71
Voter turnout	63.36	4.09	53.5	72.6	71
Median household income	45039.39	14309.46	17122	91162	71
Number of households	22002.76	45202.9	5976	327175	71
Complaints per week	5.21	5.51	0	25	70

number of management activities, E( ) denotes expectations, *households* is the number of households in the community, X is a vector of independent and control variables affecting the number of management activities, α and β are (vectors of) parameters to be estimated, and ε is the residual. The independent variables include measures of whether or not governments contract, and controls. Our choice of functional form is driven by the fact that we need to use an event count model because of the utilization of different monitoring activities, which are discrete events with a non-normal distribution (King, 1989; Maddala, 1983).[10] In the analysis below, the estimated value of the parameter alpha is greater than zero, indicating that negative binomial regression is preferred to Poisson regression (Long, 1997). Interpreting coefficients in count models is complicated somewhat by the models' nonlinear functional form. Following Long (1997), we interpret each coefficient by calculating its "discrete change," which is the difference in the number of predicted events associated with an increase in the independent variable, from one standard deviation below its mean to one standard deviation above, holding all other independent variables at their means. We assess the effects of contracting on the number of management activities by comparing contracting cities (setting *contracting* to one) and non-contracting cities (setting *contracting* to zero), holding all other variables at their means.

RESULTS

Overall, the results of our analyses indicate that contracting governments engage in less monitoring than direct service delivery governments for all four monitoring activities, although the difference is not large for the fire alarm monitoring activity—monitoring and tracking citizen complaints. However, when vendors' monitoring activities are included in the analyses, contracting governments engage in more monitoring than direct service delivery governments. Thus, our analyses support

[10] The dependent variables are each truncated at 0 and 260.

our argument about the relationship between mode of service delivery and governments' monitoring behavior, controlling for other factors.

Table 2 reports the negative binomial regression results across the four monitoring activities. The variable *contract* has a negative impact on the use of each monitoring activity, and is statistically significant in all but one instance, *monitoring and tracking citizen complaints*. This suggests that contracting leads to a reduction in monitoring activity, at least monitoring conducted by the government itself. The only other variable to have a consistently significant effect across the monitoring techniques is *complaints per week*. As expected, higher levels of *complaints per week* are associated with increased use of each monitoring tool, and the variable is statistically significant for all monitoring tools except *randomly spot check*. Finally, communities with low general expenditures per capita, high voter turnout, and many households conduct more random spot checks; and communities with high general expenditures per capita and high voter turnout more often actively track missed streets.

Table 3 reports the predicted effects of a discrete change in predicted values of the dependent variables associated with changes in the independent variable *contract,* from non-contracting to contracting service delivery. The second column reports the predicted amount of government monitoring when the variable *contract* equals zero—that is, the average amount of monitoring for direct service delivery governments, holding constant the effects of other variables at their mean. The third column reports the amount of government monitoring when the variable contract equals one—that is, the average amount of monitoring for contracting governments, holding constant the effects of other variables at their means. In all four instances, the predicted level of monitoring is significantly higher for direct service

Table 2. Negative binomial regression results of the effect of mode of service provision on use of monitoring tools.

Independent Variable	Randomly Spot Check	Track Missed Streets	Citizen Surveys	Track Citizen Complaints
Contract	–0.695*	–2.088*	–1.51*	–0.366
	(0.322)	(0.252)	(0.692)	(0.397)
Gen. expenditures per cap.	–0.526*	0.716*	1.31	–0.200
	(0.181)	(0.327)	(1.10)	(0.687)
Mayor-council	–0.041	0.606	–1.05	–0.297
	(0.292)	(0.322)	(0.783)	(1.09)
Voter turnout	0.072*	0.077*	–0.094	–0.034
	(0.019)	(0.037)	(0.098)	(0.034)
Median household income	2.20E-06	–4.55E-06	–2.09E-05	–1.60E-05
	(8.48E-06)	(1.35E-05)	(2.72E-05)	(–2.30E-05)
Number of households	4.87E-06*	2.38E-06	–2.58E-05	–1.12E-05
	(2.24E-06)	(1.33E-06)	(1.67E-05)	(1.24E-05)
Complaints per week	0.029	0.215*	0.127*	0.0863*
	(0.022)	(0.062)	(0.042)	(0.033)
Constant	0.553	–1.93	7.11	7.87
	(0.171)	(2.71)	(7.26)	(4.41)
Alpha	0.488	4.39	1.78	1.25
	(0.171)	(0.772)	(0.239)	(0.146)
Wald chi^2	113.96	145.03	16.76	12.58
n	70	70	70	70

Standard errors in parentheses. * $p < 0.05$, two-tailed test.

provision governments than for contract service provision governments. This is consistent with common criticisms of contracting: governments that rely on external service delivery reduce their management capacity.

Table 4 compares the difference in predicted levels of monitoring across contracting and direct service providing governments with the data on vendors' monitoring activities. This table shows the degree to which contracting governments are able to cover the difference between their own level of monitoring activities and that of direct service delivery governments by "buying" monitoring activities from vendors. The first column reports the monitoring difference that results from reducing direct management capacity via contracting, calculated from Table 3, columns 2 and 3. Compared to governments that provide refuse collection directly, our estimations predict that contracting governments perform 73.5 fewer random spot checks, 138.9 fewer instances of tracking missed streets, 1.82 fewer citizen surveys, and 34.7 fewer instances of tracking and monitoring citizen complaints, holding constant the effects of other variables at their mean. Column 2 of Table 4 reports the observed number of contracting management activities that *vendors* performed in municipalities that contracted for refuse collection services. In every instance, the level of monitoring bought from the vendor is substantively larger than the difference reported in column 1, supporting our contention that contracting governments can offset management contracting management deficits for these types of managerial activities. On average, vendors perform 163.85 random spot checks, 191.15 instances of tracking missed streets, 5.03 citizen surveys, and 186.2 instances of tracking and monitoring citizen complaints.

Taken together, our results suggest that the claim that contracting results in diminished management is only partially correct, at least in the case of monitoring. In our data, contracting governments engaged in less monitoring on their own than direct

Table 3. Predicted effects.

Variable	Predicted Monitoring by Direct Delivery Governments	Predicted Monitoring by Contracting Governments
Randomly spot check	147.6	74.1
Formally track missed streets	158.4	19.5
Citizen surveys	2.28	0.46
Track and monitor citizen complaints	117.9	83.2

Table 4. Comparison between predicted monitoring differences and observed levels of vendor monitoring.

Variable	Difference in Predicted Monitoring between Contracting and Direct Service Provision Governments	Observed Levels of Vendor Monitoring
Randomly spot check	73.5	163.85
Formally track missed streets	138.9	191.15
Citizen surveys	1.82	5.03
Track and monitor citizen complaints	34.7	186.20

service delivery governments, holding other factors constant. However, our results suggest that contracting governments can enhance their management capacity by "buying" managerial activity from the vendor in the context of contracting for the actual production of the service. Vendors and contracting governments combined engage in more monitoring than direct service delivery governments.

The sizable increase in monitoring activity by contracting governments and vendors combined may occur because vendors are more likely to shirk than government employees or because vendors can perform monitoring more efficiently, perhaps because of economies of scale. We examine both of these explanations. First, although public managers need to monitor service performance whether they produce the service internally or via *contract,* contracting may require more overall monitoring because vendors may have more occasions and, perhaps, incentive for opportunism than do government service personnel. Two factors that potentially influence the degree of vendor opportunism are the degree of market competition, and contract length (Sclar, 2000). Lack of competition increases the chances that a contracting government will enter into a monopoly relationship with a vendor; in these cases, contracting governments need to be more vigilant to combat vendor opportunism because they cannot easily replace the vendor with a new provider. Evidence from our survey of Ohio municipalities strongly suggests that lower vendor competition increases governments' monitoring. When there are less than three bidders on the previous contract awards, contracting governments conducted more surveys on average (1 to 0 times per year), spent more time monitoring citizen complaints (113 to 74 times per year), and engaged in more spot checking (103, compared to 40 times per year) than governments where there were four or more bidders on the previous contract.

Longer contracts may also begin to mirror monopoly relationships, exposing governments to the risk that vendors will shirk their responsibilities.[11] Our data provide some support for this contract length argument. On average, governments that entered into long-term contracts with vendors (four or more years) undertook one citizen satisfaction survey on their own, compared to zero surveys undertaken on average by governments that entered into shorter contracts (one to three years). On the other hand, governments that entered into longer contracts spot checked vendor performance only 68 times a year on average, compared to 95 times a year, on average, for governments operating with short term contracts.

A second explanation for the higher levels of monitoring occurring under contracting is that contracting governments can achieve managerial efficiencies by transferring some monitoring responsibilities to vendors. In many cases, refuse collection vendors serve multiple jurisdictions and thus benefit from economies of scale, both in their production and in their managerial activities. Refuse collection vendors also enjoy less restrictive labor practices than most direct service delivery governments, although they may confront employee unions in some cases. Consequently, vendor monitoring may be cheaper because of efficiencies that governments may capture by "buying" from vendors more monitoring than they could undertake on their own.

As a preliminary test of this scale economies explanation, we examined the average number monitoring activities contracting governments "bought" from vendors, for those governments that contracted with a local vendor and those that contracted with a vendor that provided refuse collection to multiple governments as well. If governments that contracted with vendors that served multiple jurisdictions purchased higher levels of monitoring, this would provide support for the scale expla-

[11] Shirking may be more likely until the final year of the contract, when the vendor is looking to the next round of bids.

nation. Our simple analysis provides some support for the economies of scale argument. Multi-jurisdiction vendors reported, on average, monitoring citizen complaints 188.12 times, compared to 175.33 times for single-jurisdiction vendors. However, multi-jurisdiction vendors only reported conducting 4.25 surveys, compared to 9.17 surveys by single-jurisdiction vendors.

DISCUSSION

Our results suggest that contracting governments often "buy" monitoring activity as well as production activity from vendors when performance outcomes and outputs are easy to measure. This is not to say that public managers in contracting governments abandon their monitoring responsibilities, but rather that for a low transaction costs service like refuse collection, public managers can delegate monitoring activity to the vendor. However, unbundling service delivery into service production and service management suggests there are circumstances when the transaction costs associated with service production differ from those associated with service management. In some situations, service management may carry low transaction costs while service production carries high transaction costs. Or, both management and production may carry high transaction costs. This variability suggests for four general types of production and management arrangements, as summarized in Table 5. A full theoretical accounting of management transaction costs and their impact on the transferability of different management tasks to vendors is beyond the scope of this paper. Here, we sketch some initial observations and use monitoring as an example, since it has been the focus of this paper.

When transaction costs are low for both service production and management (the upper left quadrant), contracting for production and management is most attractive and, likely, other factors being equal. The characteristics of both the production and managerial tasks (e.g., they both have low asset specificity and easy measurement) allow governments to potentially capture market efficiencies and/or economies of scale through contracting with less risk of vendor opportunism. Our results suggest that public managers in such cases can gainfully transfer production and some managerial responsibilities to vendors because it is relatively easy for them on both counts to assess the quality of vendors' performance. This is particularly the case where contracting governments can rely on service recipients to signal poor performance.[12]

Table 5. Transaction costs for service management and service production.

		Service Production Transaction Costs	
		Low	High
Service Management Transaction Costs	Low	Contract management and production	Contract management, Internal production
	High	Internal management, contract production	Internal management and production

[12] The effectiveness of fire alarm oversight assumes that service recipients can identify poor performance and take steps to signal poor performance to the government, whether the service is contracted or provided directly. There may be roadblocks, though, for certain classes of citizens (e.g., the elderly, disabled, non-native English speakers) that prevent them from serving as effective overseers. In these cases, governments cannot rely exclusively on fire alarm oversight to identify poor performance.

While we have crafted our argument in terms of transferring management and production responsibilities to the same vendor, public managers can break up the responsibilities across different vendors. For example, at the national level, many federal agencies now employ third-party evaluators to assess the quality of production activities for which they have contracted (e.g., information technology), a practice often referred to as "independent verification and validation."[13]

Alternatively, when transaction costs are high for both service production and management (the lower right quadrant of Table 5), contracting for production and management is risky and, consequently, less likely. Services that are difficult to measure and prone to opportunism may be riskier candidates for transferring management responsibilities to vendors. For example, the research on the contracted and networked provision of social and health services (such as mental health care, child welfare, drug and alcohol treatment programs) indicates that these services are prone to monopoly provision; require complex coordination across a variety of public, nonprofit, and private organizations; and resist easy measurement (Milward, Provan, & Smith, 1994; Provan, Isett, & Milward, 2004; Provan & Milward, 1995; Smith, 1996; Smith & Smyth, 1996; Van Slyke, 2003). Returning to the focus on monitoring, the absence of sound performance information inhibits contracting for production and management tasks because governments cannot assess vendors' service quality or the reliability of each vendor's monitoring activities.

When the transaction costs associated with service management tasks are low, but the transaction costs associated with service production are high (upper right quadrant), governments may contract for some management activities even while internally producing the service. Here the risks of vendor opportunism are difficult to mitigate for production tasks, but less so for management tasks. In the case of monitoring, such circumstances are likely to arise where production requires specific assets, but performance outcomes and outputs are relatively easy to identify. Some government services involve highly technical and complex production processes that are prone to monopoly or oligopoly markets, particularly in small municipalities, but have standardized and easily obtainable quality metrics (e.g., water and sewage treatment, mass transit). Asset specificity may compel governments to internalize production, yet governments may harness the benefits of outsourcing by contracting for management activities such as monitoring service quality. For example, some federal agencies (e.g., NASA and the Department of Energy) employ the previously mentioned practice of relying on vendors to assess the quality of highly technical procedures (i.e., "independent verification and validation").[14] In addition, because vendor opportunism can also occur under direct government production of asset specific services, governments may be pressured to provide external evaluation of services they produce themselves. For example, many communities contract with private labs to monitor and evaluate water quality produced by government treatment facilities.

Finally, when service production transaction costs are low, but management transaction costs are high, governments may contract for production and internalize management tasks (lower left quadrant). In such cases, a variety of vendors can produce the service with a low risk of monopolization, while service management carries transaction costs that compel internalization in order to mitigate vendor

[13] We'd like to thank one of the anonymous reviewers for pointing out this practice.
[14] We'd like to thank one of the anonymous reviewers for noting that this practice is common in some foreign countries, such as China, where government controls production assets but contracts for management of production processes.

opportunism. For example, monitoring the integration of new information technology into existing administrative processes may require specialized knowledge about existing agency administrative systems (Chen & Perry, 2003). If a government decides to procure both the information technology andits integration planning and monitoring, the contracting government will likely find itself beholden to the vendor in subsequent rounds of contracting for both the technology and its integration planning and monitoring. This is because the winning vendor of the first contract often has an enduring advantage in subsequent bidding because the vendor already has specialized skills and knowledge necessary to perform the management tasks. The contracting government is likely to come to rely on the contractor for basic planning and evaluation, risky conditions for contracting for management activity.

We have used the example of monitoring throughout our discussion, but monitoring is just one of a range of management activities that can be transferred to vendors while unbundling service delivery. In fact, contracting for management and administrative functions may be the next growth area in government outsourcing. In addition to basic monitoring and evaluation functions, many state governments and federal agencies are now aggressively contracting for feasibility assessments, strategy planning, human resource management, information technology, and basic procurement operations (Walters, 2004). In fact, some council-manager local governments in the United States have hired private firms to perform all general management functions, including staffing, planning, and budgeting (Zimmerman, 2005).

Our discussion suggests that an important issue is how managerial activities are specified in the contract language itself. Vendors may not have sufficient incentive to perform management tasks not specified in the contract on their own. This imperils service delivery if better management leads to better outcomes and contracting governments are looking to economize by contracting for management and for service delivery. How contracts specify management activities is very important, particularly for services with difficult-to-measure outcomes.

The transaction cost approach we sketch here provides the beginnings of a framework for identifying conditions under which contracting governments can harness the benefits of contracting for service management while avoiding the pitfalls of vendor opportunism. Variability in service and management transaction costs suggests there are limited rewards from "buying" management activity through contracting. Under some circumstances governments need to maintain adequate, if not extensive, management capacity to protect against vendor opportunism. Asset specificity and ease of measurement are only two of a variety of transaction cost factors that may influence the transferability of management tasks. In addition, there are also external conditions to consider, notably market competitiveness, as our finding that a lack of competition prompts contracting governments to engage in more monitoring suggests. A management task may not require specific assets and may be easy to monitor, and hence may be a likely candidate for transferring to a vendor, but the government may be located in a small community with an uncompetitive vendor market. Just as governments must be "smart buyers" of service production (Kettl, 1993), they must also be "smart buyers" of service management.

CONCLUSION

This paper evaluates municipal service delivery monitoring under alternative delivery arrangements. The analyses indicate that managers in direct service delivery governments engage in more service performance monitoring than do public managers in

contracting governments. At first glance, these results suggest that, consistent with other recent studies, when governments outsource, they not only reduce their capacity to *deliver* the service, but also diminish their direct capacity to *manage* the service (e.g., see Brown & Brudney, 1998; Van Slyke, 2003). Yet, our subsequent analyses show that governments more than make up for this management deficit by contracting with vendors to perform management services. Focusing on monitoring, an important management activity whether services are produced directly or via contract, our analyses combine vendor and government monitoring activities to reveal that service delivery in contracting municipalities receives significantly more monitoring than public managers conduct in direct service delivery governments. Contracting governments thus "buy" monitoring activity by specifying in the contract that vendors undertake monitoring tasks and then report the outcomes of their monitoring. This is not to say that public managers in contracting governments abandon their monitoring responsibilities, but rather that for a service like refuse collection, with easily identifiable outcome measures, public managers can delegate the bulk of monitoring activity to the vendor. We must also emphasize that additional government monitoring under contract may be well justified, given the riskier nature of contracted service delivery, even for a relatively easy-to-measure service like refuse collection. In sum, contracting governments can enhance their diminished direct managerial capacity by relying on vendors for the performance of some managerial tasks.

Our inquiry suggests several important directions for future research. First, the analyses in this paper were confined to refuse collection services, a low transaction cost service that is often ripe for contracting. The returns from "buying" management activities through contract may vary across different types of services. While all services can be "unbundled" into management and service delivery components, some services may be more amenable to service delivery and management contracting. Future research should investigate a broader range of services, particularly those that make contracting more problematic. Moreover, different types of service management activities may be better or worse candidates for contracting. In the discussion section, we identified management tasks governments are increasingly outsourcing. A more complete assessment of management contracting is needed to determine whether governments are making wise investments. Finally, future research should connect measures of management and contracting to outcome assessment, such as service quality and cost. Do cost savings actually materialize for contracting governments and is the source of that cost savings from both a reduction in production and management capacity? Does a slippage in performance result from "buying" management activity? Outcome measures have been the "holy grail" of contracting and management research for some time. Our sense is that the stumbling block in this area has been the high cost, rather than the conceptual difficulty in obtaining quality outcome measures. Nonetheless, outcomes are too important to be neglected in contracting research.

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APPENDIX: SAMPLE DESCRIPTION

Appendix Table 1 reports the sample distribution across the mode of service provision. Of the 105 respondents, 30% deliver refuse collection services directly (i.e., entirely through city employees), while 55% rely on a contract or a franchise with a private vendor or a nonprofit organization. No governments engaged in contracts or franchises with another government, while 4% of the sample jointly provided the service with city employees and a contract or franchise with another organization. Around 11% of the sample does not offer the service. Appendix Table 2 reports the sample distribution across population categories. The bulk of the respondents (over 84%) are communities with populations less than 50,000. All of Ohio's major metropolitan governments participated in the study, except one—Cleveland. Finally, Appendix Table 3 reports the sample distribution by type of government. Just under a third of the sample has the council-manager form of government, while over two-thirds have the mayor-council form of government. One respondent has the board or commission form of government. Given the extremely high response rate, we are confident that our sample reflects the population of local governments in Ohio.

Appendix Table 1. Refuse collection delivery mode, sample distribution.

Service Delivery Mode	Count	%
Entirely through city employees	31	30
Entirely through a contract or franchise with a private vendor	57	54
Entirely through a contract or franchise with a nonprofit organization	1	1
Entirely through a contract or franchise with another government	0	0
Jointly provided by city employees and a contract or franchise with another organization	4	4
City does not offer service	12	11
Total	105	100

Appendix Table 2. Population categorization, sample distribution.

Population	Count	%
15,000–24,999	54	51
25,000–49,999	34	33
50,000–99,999	12	11
100,000+	5	5
Total	105	100

Appendix Table 3. Type of government categorization, sample distribution.

Type of Government	Count	%
Council-manager	30	29
Mayor-council	74	70
Board/commission	1	1
Total	105	100