

TRANSACTION COSTS AND CONTRACTING

The Practitioner Perspective

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ABSTRACT: *An important decision confronting public managers is choosing when to contract for service delivery. We focus on two service characteristics that transaction cost theory suggests may influence the chances of contract success. Asset specificity is the extent to which resources applied to delivering a service can be applied to other services, and ease of measurement is the extent to which the quality and quantity of service outcomes and outputs can be easily gauged. Drawing on a survey of public managers' perceptions of these dimensions for 64 common municipal services, we review previous studies of contracting to investigate how these two transaction costs factors influence governments' decisions about whether to contract, how to manage contracts, and when contracting is likely to be successful. Our survey and review shed light on how public managers should manage contracting and how scholars should further investigate this important subject.*

KEYWORDS: *asset specificity, contracting, ease of measurement, transaction cost theory*

Contracting for public service delivery has tremendous promise for improving the quality and efficiency of government performance. At the same time, contracting carries substantial risk for waste, fraud, and poor service. In the contracting process, public managers must decide whether a service is appropriate for contracting, select a suitable vendor, and still manage the service delivery process to some degree after the contract has been let. The complexity of these tasks may partially explain the uneven success contracting has had in delivering on its promises (Boyne, 1998; Hirsch, 1995; Lavery, 1999), providing ammunition for contracting critics' arguments that public managers have not always been deliberate and systematic in managing the contracting process (Kettl, 1993; Milward, Provan, & Else, 1993; Sclar, 2000). Consequently, the practice of government

contracting can benefit from a theoretically informed framework that provides public managers guidance about whether to contract for particular services and what capacities are needed to effectively manage contracts.

This paper illustrates how transaction cost theory can be used as a framework to guide government officials through the contract management process. In broad terms, transaction cost theory identifies service-specific characteristics that affect the efficacy of contracting. The costs of negotiating, implementing, monitoring, and enforcing contracts are higher when services have outcomes that are difficult to measure and when services require asset-specific investments that increase the likelihood of monopoly markets. In such cases, the contract management costs and the heightened risks of failed contracts may outweigh their potential benefits. In this paper, we present data from a survey in which public managers assessed the transaction cost properties of 64 common local government services. The data reveal remarkable variability among the transaction cost properties of these services, suggesting specific low transaction cost candidates for successful contracting and high transaction cost services where contracting is likely to be more risky or require substantial investments in management capacity to ensure success. After categorizing the services according to these transaction cost criteria, we provide examples of services that highlight the contracting dilemmas and challenges when different service-specific characteristics are present. For example, the evidence on contracting for social services—a high transaction cost service, according to our data—indicates that contracting is risky and problematic, whereas research on contracting for refuse collection—a low transaction cost service, according to our data—suggests fewer contracting challenges. Our approach provides prescriptions for how to identify and better manage risky services for contracting.

This paper is divided into five sections. In the first section, we outline a transaction cost framework for public service contracting. In the second section, we apply the framework to identify categories of services based on their transaction cost characteristics. In the third section, we present the data from the survey of public managers, categorize the services based on their transaction cost dimensions, and then highlight services in which contracting is likely to be problematic. In the fourth section, we identify what steps public managers can take to address the challenges stemming from transaction costs. Finally, in the concluding section, we discuss ways to further assess the explanatory power and usefulness of the framework.

A Transaction Cost Framework to Guide Contracting

The promises of contracting are inviting. Although direct government provision remains the predominant approach for delivering services, the pull of potential efficiency gains, cost savings, and service delivery innovation has spurred con-

tracting across levels of government (Greene, 1996; Lavery, 1999; Warner & Hedbon, 2001). Successful contracting requires public managers to undertake three complex sets of tasks: deciding whether to contract for a particular service, establishing and implementing a process for outsourcing the service, and managing the delivery of the service once a vendor has been selected. Mismanagement at any phase risks contract failure. Public managers may inadvertently design a bidding process that inhibits competition among vendors. Managers who neglect oversight responsibilities once a contract has been let may fall prey to unscrupulous vendors who shirk their contract responsibilities. More ominously, outsourcing may end up sacrificing governments' capacity to return to direct service provision, a profound risk if contracts fail (Milward, 1996; Milward & Provan, 2000).

As contracting has become more common and politically palatable, public managers have come under increasing pressure to be "smart buyers" and "smart managers" of contracted service provision (Kelman, 2002; Kettl, 1993). Although many view contracting as an arm's-length relationship between the purchaser (i.e., the government) and the vendor, successful contracting more likely occurs when public managers are collaboratively engaged throughout the process (Gansler, 2002; Lawther, 2002; Romzek & Johnston, 2002). Consequently, public managers and the elected officials that govern them would benefit from a theoretically informed, yet easily applicable, framework to guide decision making about when to engage in contracting and how to manage contract relations once the contract has been let.

Transaction cost theory is a sound candidate for such a framework (e.g., Ferris & Graddy, 1991). According to Williamson (1981), transaction costs are the "comparative costs of planning, adapting, and monitoring task completion under alternative governing structures" (pp. 552–553). Transaction costs are essentially the management costs incurred in delivering services, and they occur under both in-house and contracted service delivery. Transaction costs arise because of limited information, uncertainty about the future, and the prospect that people or organizations behave opportunistically in their interactions with others (Coase, 1937; Williamson, 1981, 1996, 1997). In the case of contracting, because parties to a transaction cannot fully predict all possible future scenarios, they cannot fully specify contracts. When a contract is incomplete, the vendor may opportunistically exploit ambiguities in the contract to its own advantage at the expense of the contracting organization, with greater ambiguities leading to greater risk. To minimize such opportunism, the contracting organization must incur transaction costs, such as establishing performance measures in the contract, monitoring vendors' performance, and executing necessary penalties.

Astute public managers are wise to examine a range of factors as they navigate the contracting process, including potential efficiencies and cost savings

from contracting, the salience of the service, the degree of political support or opposition to contracting, and legal constraints on contracting (Carver, 1989; Ferris, 1986; Hirsch, 1995; Lavery, 1999; O'Looney, 1998). Transaction cost theory instructs public managers to consider another important factor: the nature of the service under consideration to be contracted. Different services have different levels of transaction cost factors. We focus on two service-specific factors identified by Williamson (1981): asset specificity and ease of measurement. Asset specificity refers to whether specialized investments are needed to deliver the good or service. Ease of measurement refers to how easy or difficult it is to identify performance measures and assess whether vendors fulfill the specifications of the contract in delivering the service. We discuss each in turn.

ASSET SPECIFICITY

Asset specificity is an important reason why markets may turn uncompetitive. Services that require large specialized investments that are difficult to adapt to other uses (i.e., specific assets) are likely to have few vendors. The problem is exacerbated when the government is the only buyer of the service. In these instances, organizations that have made specialized investments cannot acquire necessary resources by shopping their services elsewhere. Such specialized investments might include:

- the use of a specific location that is only movable at a great cost;
- the use of highly specialized human skills that cannot be put to work for other purposes;
- the use of specialized tools or a complex system designed for a single purpose; and
- the requirement that the service reach the user within a relatively limited period of time or the quality of the service greatly diminishes.

Asset specificity heightens contracting risks in future rounds of contracting. The winner of the first contract often has an inherent advantage in subsequent rounds because they have already made the required specialized investments necessary to deliver the service. Potential competitors are unlikely to appear; they may be unwilling to take on the high costs of the initial specialized investment if they are uncertain about winning future contracts. In effect, specialized investments raise entry barriers in subsequent rounds of contracting, creating monopolistic conditions in which a vendor can opportunistically exploit the contracting organization by raising prices or reducing service quality with little risk of penalty.

In response to highly asset specific services, governments may turn to internal service production, that is, to producing the service themselves. Producing services internally may mitigate asset specificity risks, although in many circumstances there may still be good reason to pursue contracting. Some governments

may not be able to afford the high fixed costs associated with the specialized investments, whereas a vendor may be able to achieve economies of scale through contracts with multiple governments. If public managers identify that a service requires such specialized investments, they should pursue contracting with caution, as weakly competitive markets may not generate as much cost savings. To mitigate the risk that a monopoly vendor behaves opportunistically in these circumstances, public managers and the elected officials that govern them should increase their government's capacity for managing contracts. Contract management may mean extensive communication with vendor contract staff, frequent monitoring of vendor behavior and performance, and periodic enforcement of contractual penalties (should they exist). The costs of these activities may offset any cost savings from contracting. Yet, without such investments, the risk of contract failure is likely to be high.

EASE OF MEASUREMENT

Ease of measurement refers to the ability of the contracting organization to gauge vendor performance or observe how the vendor delivers the service. Easily measured services have identifiable performance metrics that accurately represent service quantity and quality. If performance outcomes are difficult to measure and observe, a service may still be easy to measure if it is relatively straightforward to monitor the activities the vendor takes to deliver the service. A service is difficult to measure when neither the outcomes to be achieved nor the activities to be performed are easily identifiable. For example, it is easier to measure the quality of trash collection than of mental health care services. Difficult measurement gives rise to information asymmetries between contracting governments and vendors; governments cannot assess the quality of services they are receiving.

Transaction cost theory typically prescribes internal service production for difficult-to-measure services. Although internalizing service production does not eliminate difficulties in monitoring service quality (i.e., government employees may not perform the way managers direct), it may reduce the transaction costs of monitoring by providing more opportunities to gauge employee activity. Internal service production may also allow managers to exploit other, perhaps more informal, management tools to guide employee behavior, such as socializing employees to pursue the agency's mission. However, as is the case with asset specificity, there may still be good reasons to outsource difficult to measure services. Nongovernmental organizations, whether for-profit or nonprofit, may have more expertise in delivering the service than the government, as is often the case for many medical and social services. However, when contracting in these circumstances, the government is exposed to the risk of unseen vendor nonperformance or negligence. Furthermore, citizens have difficulties in accurately identifying the providers of the services they receive (see Van Slyke & Roch,

2004). Consequently, difficult to measure services may be poor candidates for fire alarm monitoring (McCubbins & Schwartz 1984); that is, relying on citizen complaints may not adequately inform public managers about vendors' performance.

The combination of high asset specificity and difficult measurement can severely complicate specifying, monitoring, and enforcing contracts. The risk of contract failure is extremely high when contracting with a monopolist for a service that resists easy performance measurement. Governments place great faith and trust in the vendor when contracting for these types of services.

Scholars applying transaction cost theory to contracting have focused on the governments' contracting decision and the structure of the contracting process (Besley & Ghatak, 2001; Brown & Potoski, 2003c; Crocker & Masten, 2002; Ferris & Graddy, 1991; Hart, Shleifer, & Vishny, 1997). More recently, transaction cost theory has been used to understand the third phase of contracting: the management of service delivery postcontract (Brown & Potoski, 2003b). Taken together, this literature shows that transaction cost theory is a potent analytical tool for understanding a broad range of contracting decisions and procedures and that the utility of transaction cost theory extends beyond academic inquiry and into the world of practice. Still, before addressing the applicability of the framework for practitioners, it is important to address the limitations of transaction cost theory.

Transaction cost theory is not without critics. For one, there are those that espouse alternative contracting frameworks that include factors not present in transaction cost theory. The strategic competency approach, for example, argues that contracting decisions are driven by governments' (or firms') core and peripheral competencies: Governments should produce internally services in their core competencies and outsource their peripheral competencies (e.g., Barney, 1999). The public values and rights approach familiar to many public administration and legal scholars argues that public managers should incorporate values beyond efficiency and economy in deciding whether to contract, notably equality, accountability, and efficacy (e.g., DeHoog, 1997). Both the core competencies and public values approaches primarily provide public managers guidance on whether to contract for particular services. They offer less practical direction on how to organize the bidding process or on how to manage service provision once the contract has been let. As we illustrate in this paper, transaction cost theory provides a more complete analytical framework. This is not to say that public managers should ignore the important factors identified by these other frameworks, but rather that transaction cost theory serves as a comprehensive foundation for guiding public managers through many aspects of contracting.

Transaction cost theory is also sometimes criticized for assuming that vendors operate opportunistically, pursuing their self-interest with guile (Ghoshal & Moran,

1996). This assumption underlies many of the recommendations for caution in contracting decisions. To be fair, transaction cost theory has evolved from its initial simplicity to provide a more complex account of organizational interactions (i.e., relational contracting under conditions of asset specificity [Williamson, 1993]), but it still neglects the role of trust-based connections and networks among organizations. The growth of partnerships and collaborations, often seen as networks among governments, private firms, and nonprofits, suggests that trust and commitment to a policy goal, rather than a market exchange, can serve as the basis for interorganizational arrangements (LaPorte, 1996; Page, 2003; Provan & Milward, 1995; Thurmaier & Wood, 2002). A transaction cost approach is certainly more conservative than a trust-based approach, but given the consequences associated with contract failure for certain services, public managers may be wise to err on the side of caution.

Applying the Framework

In this section we illustrate how public managers can use service-specific characteristics to point to services that are relatively easy to contract and those services that likely pose challenges for contracting and risk of contract failure. Table 1 uses the two transaction cost criteria to construct a two-by-two matrix to classify services. Below, we describe the cells in Table 1 by highlighting the relevant contract issues for each type of service.

LOW TRANSACTION COST SERVICES: LOW ASSET SPECIFICITY AND EASY MEASUREMENT

In the upper left quadrant of Table 1 are services that have low asset specificity and are easy to measure. Because they do not require assets specific only to the service, these services can be performed by a greater number of potential vendors, and because much of their provision involves things that can be easily measured (e.g., money) or directly observed (e.g., movement of a car), governments can more easily specify in contracts how vendors should perform these services. The low transaction costs in these services lead to the recommendation to contract their delivery because of the high potential for efficiency and cost savings and low risk of contract failure. These services likely only require fairly simple and straightforward contracting processes; the risk of monopolization is low, contract designers can fairly easily specify the outcomes and outputs for the service, and gauging vendors' performance once the contract has been let is fairly straightforward. This is not to say that governments can totally shirk their contract management responsibilities in these cases, but rather that the transaction costs of managing contracted service delivery are likely to be low.

Table 1. A Transaction Categorization of Services

	<i>Low asset specificity</i>	<i>High asset specificity</i>
<i>Easy to measure</i>	Low transaction cost services	Mixed transaction cost services
<i>Difficult to measure</i>	Mixed transaction cost services	High transaction cost services

HIGH TRANSACTION COST SERVICES: HIGH ASSET SPECIFICITY AND DIFFICULT MEASUREMENT

In the lower right quadrant of Table 1 are services that have high asset specificity and are difficult to measure. The high transaction costs in these services lead to the recommendation to internalize their delivery, although governments often end up contracting for some of these services. In such cases, strong economies of scale or vendors' specialized expertise may offset the risks of contract failure. When contracting under these circumstances, public managers should be much more careful than in the case of low asset specificity and easy measurement. For example, in instances in which government is the only service buyer, public managers can structure the contract to stimulate competition by breaking the contract into smaller components and awarding different parts of the service to different vendors. Alternatively, public managers can retain some service delivery capacity themselves (if they can afford it) as a check on the potential monopolization of the marketplace. Similarly, public managers should be much more vigilant in monitoring vendor performance postcontract, although monitoring activities are resource intensive.

THE MIXED CASES: LOW ASSET SPECIFICITY/DIFFICULT MEASUREMENT AND HIGH ASSET SPECIFICITY/EASY MEASUREMENT

The upper right and lower left quadrants of Table 1 are mixed cases, in which one transaction cost dimension is high and the other is low. Public managers may be tempted to outsource these services because they perceive that lower levels of one service criteria negate the contract risks stemming from high levels of the other service criteria. For example, public managers may worry little about potential disputes with vendors over performance measures for a service that is difficult to measure because a vibrant market for the service exists due to its low asset specificity. If a contract fails, public managers have a stable of other vendors to step in to bid on future contracts. However, these types of services still pose risks. Public managers still need to dedicate resources to address challenges associated with the problematic service criteria.

Table 2. Distribution of Sample by Stratification Criteria

<i>Population</i>				<i>Structure</i>	
< 24,000	25,000–49,999	50,000–99,999	+100,000	Council– Manager	Mayor– Council
14	5	10	7	15	21

Note: $N = 36$.

Managers' Perceptions of Service Transaction Costs

In this section, we present the data from a survey of public managers about the transaction cost dimensions of a variety of basic local government services. We use the assessments of public managers in the survey to categorize the services based on their transaction cost dimensions. Finally, we review the literature on contracting for a particular service from each category to highlight contracting challenges related to these types of services.

To measure asset specificity and ease of measurement, in the winter of 2002 we surveyed 75 randomly selected city managers and mayors across the country, asking them to rate 64 common local services along these dimensions. Governments were randomly selected with two sample stratification criteria: population and type of government (council–manager versus mayor–council).¹ Thirty-six usable surveys were returned for a response rate of 48 percent. Table 2 reports the distribution of our respondents along the sample stratification criteria. There is no appreciable difference between nonrespondents and respondents for our two stratification criteria. The 64 services are those listed in the International City/County Manager Association's (ICMA) survey "Profile of Local Government Service Delivery Choices." The ICMA survey is possibly the strongest large sample study of governments' service production practices.²

Our survey instrument provided a half-page description of the two transaction cost factors: asset specificity and ease of measurement. Table 3 presents the definitions used on our survey instrument. The instrument then asked respondents to rate each of the 64 services included in the ICMA survey on two scales: 1 to 5 for asset specificity and 1 to 5 for ease of measurement. For the ease-of-measurement scale, the high end of the scale point was anchored by the word *difficult* (scored 5), and the low end of the scale was anchored by the word *easy* (scored 1). Similarly, for the asset specificity scale, the high end was anchored by the word *high* (scored 5), and the low end was anchored by the word *low* (scored 1). Consequently, higher values indicate that the service is more asset-specific or more difficult to measure. We averaged these ratings across respondents to create

Table 3. Survey Definitions for Asset Specificity and Ease of Measurement

The survey definitions were as follows (the form sent to respondents included examples):

Asset Specificity: Degree of specialized investments refers to whether specialized investments are required to produce the service. By special investments, we mean investments that apply to the production of one service but are very difficult to adapt for the production of other services. These specialized investments include:

- the use of a specific location that is movable only at a great cost;
- the use of highly specialized human skills that cannot be put to work for other purposes;
- the use of specialized tools or a complex system designed for a single purpose; or
- the requirement that the service reach the user within a relatively limited period of time or the quality of the service greatly diminishes.

At one end of the scale, a service has a low degree of specialized investments if no specialized investments are generally required to produce the service. At the other end of the scale, a service has a high degree of specialized investments if many specialized investments are generally required to produce a service. Such specific investments often mean that if a government decides to contract for such a service, it is more likely that only the selected vendor will be available in future rounds of contracting.

Ease of Measurement: At one end of the scale, a service is easy to measure if it is relatively straightforward to monitor the activities required to deliver the service and to identify performance measures that accurately represent the quantity and quality of the service. For easy-to-measure services, government officials can easily write a contract and clearly specify the activities and outcomes for the vendor to perform and achieve. Also, it is easy for government officials to monitor the quality and quantity of these activities and their outcomes. At the other end of the scale, a service is difficult to measure if it is relatively hard to monitor the activities required to deliver the service and to identify performance measures that accurately represent the quantity and quality of the service. For difficult-to-measure services, government officials cannot easily write a contract and clearly specify the activities and outcomes for the vendor to perform and achieve.

the service characteristic independent variables *asset specificity* and *ease of measurement* for each service. Table 4 reports individual ratings for each of the 64 services.

As Table 4 indicates, there is considerable dispersion among the 64 services' transaction cost measures. At the high end, operation of airports received the highest asset specificity rating at 4.19, and operation of mental health programs and facilities is the most difficult to measure at 4.29. On the low end, buildings and grounds maintenance received the lowest asset specificity rating at 2.00, and payroll received the lowest measurement rating at 1.53. The two service features

Table 4. Average Specificity and Ease of Measurement Ratings

<i>Service</i>	<i>Asset specificity</i>	<i>Ease of measurement</i>	<i>Service</i>	<i>Asset specificity</i>	<i>Ease of measurement</i>
Ambulance service	3.61	2.43	Operation of parking lots and garages	2.36	2.03
Animal control	2.68	2.81	Operation of bus transit systems	3.35	2.48
Building security	2.24	2.17	Operation of para-transit systems	3.50	2.69
Buildings and grounds maintenance	2.00	2.20	Operation/management of hospitals	4.17	3.40
Child welfare programs	3.52	4.08	Parking meter maintenance and collection	2.39	2.24
Collection of delinquent processing	2.51	2.08	Parks and landscaping maintenance	2.33	2.11
Commercial solid waste collection	3.06	1.97	Payroll	2.36	1.53
Crime prevention/patrol	3.37	3.60	Personnel services	2.58	3.31
Data processing	3.14	2.61	Police/fire communications	3.80	2.59
Disposal of hazardous materials	4.22	2.88	Prisons/jails	4.04	3.21
Disposal of sludge	3.52	2.36	Programs for the elderly	3.14	3.48
Drug and alcohol treatment	3.63	4.12	Public health programs	3.46	3.74
Electricity utility management	4.08	2.96	Public relations/public information	2.65	3.31
Emergency medical services	3.91	2.76	Residential solid waste collection	3.00	2.06
Emergency vehicle fleet maintenance	3.28	2.11	Sanitary inspection	3.06	2.57
Fire prevention/suppression	3.80	3.24	Secretarial services	1.75	2.92
Gas utility operation and management	4.08	3.00	Sewage collection and treatment	4.09	2.36
Heavy equipment vehicle fleet maintenance	3.06	2.22	Snow plowing/sanding	2.50	2.21
Insect/rodent control	2.53	2.63	Solid waste disposal	3.33	2.12
Inspection/code enforcement	2.97	2.72	Street repair	2.64	2.40
Legal services	3.39	3.46	Street/parking lot cleaning	2.26	2.00
Maintenance/administration of cemeteries	2.37	2.41	Tax assessing	2.93	2.87
Recreation facility operation/maintenance	2.94	2.61	Tax bill processing	2.31	1.91
Operation of airport	4.19	2.96	Title records/plat map maintenance	3.21	2.58
Operation of animal shelters	2.80	2.87	Traffic control/parking enforcement	2.59	2.53
Operation of convention centers/auditoriums	3.58	2.77	Traffic signal installation/maintenance	2.91	2.24

Operation of cultural and arts programs	3.00	3.26	Tree trimming/planting on rights of way	2.14	2.36
Operation of daycare facilities	3.36	3.44	Utility building	3.11	2.50
Operation of homeless shelters	3.12	3.42	Utility meter reading	2.32	2.03
Operation of libraries	3.50	2.61	Vehicle towing and storage	2.07	1.97
Operation of mental health programs	3.96	4.29	Water distribution	3.94	2.44
Operation of museums	3.59	2.85	Water treatment	4.12	2.36

Note: Each scale runs from 1 to 5. For the ease-of-measurement scale, the high end of the scale point is anchored by the word "difficult" (scored 5), and the low end of the scaled is anchored by the word "easy" (scored 1). Similarly, for the asset specificity scale, the high end is anchored by the word "high" (scored 5), and the low end is anchored by the word "low" (scored 1).

are positively and somewhat strongly correlated ($r = .47$), indicating that services that are easy to measure also tend to lack specific assets. For example, building security displays low asset specificity (2.24) and easy measurement (2.17), whereas drug and alcohol treatment displays high asset specificity (3.63) and difficult measurement (4.12).

To further investigate the utility of our measures, we examine how transaction costs influence how municipal governments choose to deliver services. Table 5 categorizes the services in the two-by-two transaction costs matrix based on whether the service displays high or low asset specificity and easy or difficult measurement, using the mean rating for each dimension as a rudimentary threshold to sort services. The mean asset specificity rating was 3.12 and the mean ease of measurement rating was 2.69. All services above the mean were categorized as high asset specificity or difficult to measure, and all services below the mean were categorized as low asset specificity or easy to measure. We apply our survey results to the 2002 ICMA periodic survey of county and municipal government contracting practices.³ To the right of each service we report the percentage of respondents to the ICMA survey that deliver the service (%DEL); that is, the municipal or county government provides this service for its citizens, although service provision can be internal or by contract. Then we report the percentage that use some competitive alternative to direct service provision in delivering the service (%CON), either through a contract with another government, a private for profit, or a private nonprofit, or through a franchise or concession arrangement. In the following, we discuss the findings reported in Table 5 to illustrate how a transaction cost framework sheds light on the contracting challenges for different categories of services. To highlight the contracting issues for each category of service, we review the literature on contracting for a specific service in each cell.

LOW ASSET SPECIFICITY AND EASY MEASUREMENT

In the upper left quadrant of Table 5 are services that have low asset specificity and are easy to measure, and thus are prime targets for contracting. Among these services are vehicle towing and storage, buildings and grounds maintenance, tax bill processing, and street/parking lot cleaning. Consistent with the expectations from transaction cost theory, of the 56 percent of respondents that provide residential refuse collection (i.e., residential solid waste collection), 50 percent use some competitive alternative to direct service provision. In addition, a remarkable 84 percent of the 42 percent of governments that provide vehicle towing and storage services use competitive arrangements. In these instances and others in the low transaction costs category, many governments have opted to pursue cost efficiencies given the relative ease of contracting. For other low transaction cost services, the ICMA data suggest that transaction costs are not the determinant factor in governments' contracting decisions. Of the 79 percent of governments

in the sample that provide traffic control for residents, only 8 percent use some competitive service delivery mechanism. This is likely because traffic control is traditionally the domain of police departments where little outsourcing occurs. Similarly, of the 94 percent of governments in the sample that undertake payroll processing, only 6 percent rely on competitive service delivery alternatives. The low level of competitive provision likely results from the fact that payroll processing is typically part of a package of centralized administrative functions performed by public employees. In both instances, these are peripheral services and functions that have been folded into more centralized units of government. The results for these services and others in the low-transaction-cost category suggest that plenty of opportunities remain to unpack the delivery of government services and capture the efficiencies and cost savings of contracting at a low risk of contract failure.

The case of refuse collection illuminates the potential benefits of contracting for low transaction cost services, while also pointing to factors that public managers should address when structuring and managing contracted service provision. Refuse collection is perhaps the classic example of a service with nonspecific assets and easy measurement. Service quality and quantity is easy to gauge because it is quite obvious when and how much trash has been removed and from where. The equipment and facilities used for residential refuse collection can readily be transferred to other service areas, such as commercial waste. Indeed, during the late 1960s and 1970s refuse collection was essentially the test case for contracting in general (e.g., Savas, 1977). There are probably more studies examining outsourcing for refuse collection than for any other municipal service, largely because of the availability of data, which is not surprising because quality data are easier to acquire for easily measured services. Although the research on whether contracting for refuse collection delivers on its promises is mixed, on balance it appears that outsourcing results in more efficiency than internal production (see Hodge, 2000, pp. 100–107, for a review). Moreover, little of this research discusses the managerial challenges associated with refuse collection contracting, which may not be surprising because its ease of measurement and relatively low asset specificity make the service easier to manage. This is not to say that refuse collection should be outsourced under any circumstances. On the contrary, the success of contracting may still vary across certain conditions. For example, Hodge's (2000) extensive review of refuse contracting studies suggests that competition among vendors does not always occur, although it is a critical component of driving down prices. Small rural communities may not have more than one or two private trash haulers and consequently should be careful about outsourcing in an uncompetitive market. However, large metropolitan areas are more likely to have multiple private haulers and shorter collection routes, conditions that favor outsourcing.

Table 5. Service Categorization by Asset Specificity and Ease of Measurement

	Low asset specificity	%Del	%Con	High asset specificity	%Del	%Con
<i>Easy to measure</i>						
Payroll		94	6	Emergency vehicle fleet management/vehicle maintenance	82	41
Tax bill processing		62	29	Solid waste disposal	46	58
Vehicle towing and storage		42	84	Disposal of sludge	51	48
Commercial solid waste collection		37	57	Sewage collection and treatment	68	32
Street/parking lot cleaning		73	21	Water treatment	57	23
Utility meter reading		54	29	Ambulance service	53	39
Operation of parking lots and garages		36	23	Water distribution	64	19
Residential solid waste collection		56	50	Operation/maintenance of bus systems	24	57
Collection of delinquent processing		60	39	Title records/plat map maintenance	53	33
Parks and landscaping maintenance		86	23	Police/fire communications	85	23
Building security		73	21	Operation of libraries	56	32
Building and grounds maintenance		94	30	Data processing	86	19
Snow plowing/sanding		69	15			
Heavy equipment fleet management and maintenance		87	36			
Parking meter maintenance and collection		22	12			
Traffic sign/signal installation and maintenance		79	39			
Tree trimming and planting on public rights-of-way		83	40			
Street repair		90	36			
Maintenance and administration of cemeteries		36	18			
Utility building		57	20			
Traffic control/parking enforcement		79	8			
Sanitary inspection		48	32			
Operation and maintenance of recreation facilities		86	20			
Insect/rodent control		37	42			

<i>Difficult to measure</i>					
Inspection/code enforcement	90	11	Operation/maintenance of paratransit system	22	56
Animal control	73	29	Emergency medical service	67	31
Operation of animal shelters	47	44	Operation of convention centers and auditoriums	25	35
Tax assessing	51	44	Operation of museums	26	45
Secretarial services	87	5	Disposal of hazardous materials	36	65
Operation of cultural and arts programs	38	52	Electricity utility operation and management	15	48
Personnel services	90	9	Operation of airports	29	42
Public relations/public information	90	13	Gas utility operation and management	10	69
			Prisons/jails	42	32
			Fire prevention/suppression	77	11
			Operation/management of hospitals	6	72
			Operation of homeless shelters	11	81
			Operation of daycare facilities	11	57
			Legal services	76	56
			Programs for the elderly	55	46
			Crime prevention/patrol	93	8
			Public health programs	32	54
			Child welfare programs	23	52
			Drug and alcohol treatment	23	72
			Operation of mental health programs/facilities	19	67

Notes: %Del = the percentage of respondents in the ICMA data set that deliver the service. %Con = the percentage of those respondents that use competitive means to do so.

HIGH ASSET SPECIFICITY AND DIFFICULT MEASUREMENT

In the lower right quadrant of Table 5 are services that are highly asset-specific and difficult to measure. Looking across the range of services in this category, some services that are commonly thought to be “core government functions” and intuitively might seem poor candidates for contracting are indeed highly asset-specific and difficult to measure. Examples in this area include crime prevention and patrol and fire prevention and suppression. The vast majority of the 93 percent of governments in the 2002 ICMA sample that provided crime prevention and patrol services do so directly—only 9 percent used alternate delivery arrangements for these services. Similarly, only 11 percent of the 77 percent of governments that provide fire prevention and suppression do so through alternatives to direct service provision. Perhaps the most interesting of the results in this quadrant are the many high transaction cost services that are outsourced. As noted earlier, part of this may be due to the high fixed costs of delivering many of these types of services; for example, of the 10 percent of governments in the sample that operate and manage gas utilities—a service that requires significant sunk costs—69 percent outsource this function. Alternatively, governments may decide to competitively outsource the delivery of some of these services because they lack internal capacity and experience, as is sometimes the case with social services. Of the 23 percent of governments that provide child welfare services, 61 percent rely on contracted service provision or alternate service delivery.

According to the logic of transaction costs, high transaction cost services pose the highest risk of contract failure. The case of contracting for social services sheds light on the risks to successful contracting and highlights the importance of investing in contract management capacity. Of all the services in this category, the most research has been done on the delivery of social services (for a review, see Snyder, 2003). The overwhelming conclusion from these studies is that contracting for social services generates very little cost savings, yet carries important problems associated with market monopolization and difficult measurement of service outcomes and outputs. For example, Van Slyke’s (2003) study of social service contracting in New York finds very little to no competition among non-profit vendors that deliver social service programs through contracts with New York counties and state agencies. All of the state and county managers in Van Slyke’s study highlighted the absence of competition in the marketplace; in fact, only four of the five county agencies in his sample even used a competitive bidding process. Perhaps more troubling, contracting persisted in New York even though many governments in Van Slyke’s analysis lacked sufficient contract management capacity. Van Slyke finds that contracting governments consequently exposed themselves to heightened risks of fraud, abuse, and poor performance because they did not have sufficient contract-monitoring capacity. Again, the di-

rection we derive from transaction cost theory is that if governments decide to contract for these problematic services, they must make appropriate managerial investments. With regard to ease of measurement, several studies find contracting problems associated with the measurement of social service outcomes (DeHoog, 1984; Johnston & Romzek, 1999). This is certainly not surprising, given the lessons of the performance measurement literature: Generating performance measures for human services is notoriously difficult. A mental health program, for example, may do an excellent job caring for its clients, yet have few "cured" cases to show for its efforts. In fact, such a program's caseload may be more difficult precisely because its high service quality is a magnet for more severe cases. In addition, Van Slyke and Roch (2004) find that citizens are often unable to identify accurately whether social services are delivered directly from their government or via contract, further complicating managers' ability to monitor contract performance for these services.

Here is where trust-based interorganizational relations can provide important insights for public managers' contracting. Governments sometimes have little choice but to contract for human services because these are relatively new service imperatives that governments had little experience providing on their own. Nonprofits have a long history of delivering quality social services (Smith & Lipsky, 1993). A common assumption was that governments' social service contracts with nonprofits were not problematic, even when the contract left the government vulnerable to monopoly market conditions, because, after all, the nonprofits' motives were fundamentally altruistic. The extent to which nonprofits' altruism trumps monopoly risks in practice is difficult to discern, and the question has become somewhat moot as large for-profit firms have moved into the social service market. For example, Sanger (2003) describes the emergence of private corporations like Maximus in the job training service area. Smith and Lipsky (1993) report how nonprofits have responded to the rise in government contracting by focusing more on bottom-line concerns at the expense of mission. The result is that governments that contract with for-profits for social services may face a greater risk of vendor opportunism for services whose output and outcome quality and quantity are difficult to measure.

THE MIXED CASES: LOW ASSET SPECIFICITY/DIFFICULT MEASUREMENT AND HIGH ASSET SPECIFICITY/EASY MEASUREMENT

Services in the upper right quadrant and the lower left quadrant represent the mixed cases in which one transaction cost dimension is high and the other is low. Some interesting cases can be found for services that have very high levels of one transaction cost criteria and low levels of the other. According to our survey, sewage and water treatment are highly asset specific, yet these services are rela-

tively easy to measure. Alternatively, animal control and code enforcement are difficult to measure but do not require specific assets. Mixed services may be tempting targets for outsourcing, in part because they often are peripheral to governments' core missions (e.g., operation of animal shelters and title records/plat map maintenance) or are used only infrequently (e.g., tax assessing and disposal of sludge). The 2002 ICMA data suggest governments often contract for services in these mixed category cells. For example, the 41 percent of the 82 percent of respondents that undertake maintenance for emergency vehicles do so through competitive means. Similarly, 52 percent of the 38 percent of respondents that provide cultural and arts programs use competitive contracting to do so.

Data processing (i.e., information technology) is a good example of a mixed case, with high asset specificity (3.14) and modest ease of measurement (2.61). Governments sometimes lack the resources to maintain full-scale information technology departments and hence at various times rely on vendors to provide services. Furthermore, information technology is a peripheral function of government; outsourcing may allow government employees to concentrate on delivering core services. Even though asset specificity is relatively high, governments benefit from the fact that they are not the only buyer of such services; private firms are big consumers of information technology services as well. Consequently, at first glance the market is likely to appear robust. However, in some cases asset specificity creates markets with only one or two service vendors. Many information technology contracts are for highly specific, large-scale projects that require long-term contracts (Perlman, 2002). Once the contract has been let, the costs of finding a new vendor to take over midstream can be prohibitively high. Because the market in this area appears robust and the measurement costs are low, governments may cut back on their contract management responsibilities and expose themselves to the risk of contract failure or underperformance, as Brown and Brudney (1998) identify in their study of contracting for information technology at the local level. Brown and Brudney surveyed and interviewed local government officials across the country about the implementation of geographic information systems (GIS) in their government. GIS are highly sophisticated information technology systems that "allow governments to capture, manage, analyze and call on land related data to solve complex planning and management problems" (Brown & Brudney, 1998, p. 336). Brown and Brudney found that many local governments in their sample contract for GIS services and that substantial contracting for GIS undermined local governments' management capacity, reduced implementation of GIS, and lowered utilization of the technology by employees. Contracting for services like information technology may be particularly risky if public managers focus on the safe contracting characteristics and discount the risks of the dangerous one.

Implications for Contracting and Contract Management

Placing our study in the context of recent contracting literature suggest some lessons for public managers' approach to contracting and contract management. Although local governments are more likely to contract for low transaction cost (low asset specificity and easily measured) services, they also often contract for services that have at least one problematic service criteria, and often contract for services that are problematic along both dimensions. In these circumstances, public managers expose themselves to the risk of contract failure, although we should point out that these same transaction cost factors threaten service delivery for internally produced services as well.

Transaction cost theory suggests specific steps managers can take to address the challenges of contracting for these types of services. First, contracting for services with high asset specificity heightens risks of market monopolization in future rounds of contracting. The bidding stage presents an early opportunity to reduce this monopolization threat. One strategy involved in producing the service is to split contracts into component parts—in essence reducing the scope of each contract by tailoring them to one or two tasks involved in producing the service—and award different contracts to different vendors. By doing so, governments may reduce the risks of being beholden to one vendor while providing multiple vendors the opportunity to develop capacity and learn about various aspects of the service delivery process. On the negative side, such a strategy—if it is in fact possible for the service in question—increases the complexity of service delivery after the bidding process because the various components require coordination. And, depending on how interrelated the components are, one problematic vendor can cause the downfall of the whole service by gumming up the works for all the others. An alternative contracting strategy is to reduce the scale of a contract by dividing an entire service into several smaller, yet still complete, service contracts (e.g., awarding different transportation routes to different vendors) and using multiple vendors to deliver the same services. Again, such an approach may stimulate market competition and reduce reliance on a single vendor, although it may be costly to design, administer, and monitor several contracts. In both cases (reducing the scope or the scale of contracts) governments can still retain some portion of service delivery in-house as another check on monopolization. A third strategy is for smaller neighboring governments to pool resources and attract vendors from outside the local market, although this may only be an option in larger metropolitan areas with multiple governments or in rural areas where several small-to medium-sized communities are in reasonable proximity. Finally, governments that repeatedly go to the market for asset-specific services may purposely decide to select a different vendor in a subsequent contracting round to

make sure that a regular group of vendors maintains the capacity to provide the service.

Once a vendor has been selected, public managers can reduce the risk of contract failure for asset-specific services through several steps. First, if possible, clearly defined performance measures facilitate monitoring vendor performance. Even before the contract is let, public managers should work independently and in collaboration with the vendor to clearly identify measures for how the vendor will be evaluated. For example, public managers might decide that on-time service is a critical performance criteria for the operation of a bus transit system and then require the vendor to provide periodic reports of how often buses arrive at each stop in a route on time. Public managers can spot check performance by riding different routes at random. Similarly, public managers should devote sufficient resources to monitoring and execute contract incentives (if they exist in the contract) to curb any opportunistic leanings by monopolist vendors. Incentives can take the form of financial penalties or rewards. Returning to the bus transit example, public managers might levy a penalty fee if the vendor is late to a designated percentage of stops over a specified time period. Finally, public managers will likely benefit from extensive communication, coordination, and planning with the vendor. Note that all of these are high-transaction-cost activities.

When contracting for difficult to measure services, governments can reduce the risk of contract failure by skillfully managing the contract bid stage. The risk in this case is that information asymmetries will inhibit the ability of public managers to identify whether vendors are behaving opportunistically. At the bidding stage, contracting governments can include clauses that allow them to use the vendors' past performance as a criterion for selection rather than making a judgment solely based on cost and capability, allowing public managers in effect to check vendors' references (Kelman, 2002). Although the service may be difficult to measure, public managers may learn much about the vendor professionalism and service quality by talking to other purchasers of vendor services. An alternative strategy is to contract with vendors that share the goals of the government. Some argue that private firms are more prone to opportunism than organizations that are not driven by profit, such as nonprofits and other governments (Cohen, 2001; Light, 2000; Rainey, 1991; Wise, 1990). Private firms may deliver a lower-quality service to reduce their costs and raise profits, whereas nonprofits may be more focused on their mission than their bottom line. However, as noted earlier, contracting with nonprofits in some service areas (e.g., social services) may not reduce the threat of vendor opportunism because market competition has shifted many nonprofits' focus from service goals to their financial bottom line (Smith & Lipsky, 1993). Finally, contracting governments may be able to reduce opportunism risks by contracting with other governments. Such approaches may achieve economies of scale and align producers with similar objectives. Yet, collaborat-

ing with other governments may not fully harness the advantages of private vendors' policy expertise, a valuable commodity for technically vexing services.

Once the contract has been let, public managers may benefit from engaging in steps similar to those taken to reduce the risks under high asset specificity. If measurement is moderately difficult, the focus should be on clearly specifying outcome or output-based performance measures. However, at some point, the service may become so difficult to measure that the costs of identifying and implementing effective performance measures overwhelm their benefits. In such circumstances, public managers may benefit from developing a thorough understanding of the process the vendor undertakes in order to gauge whether the vendor is performing at a high level. To begin, public managers should understand the logic behind the service delivery techniques of the vendor. For example, in the case of programs for the elderly, public managers should be familiar with the theory driving a vendor's programming (e.g., the elderly suffer from isolation). Then, public managers should be acquainted with the specific tools and techniques the vendor uses to deliver the program. Returning to the example of programs for the elderly, public managers should understand how the delivered program is designed to address the isolation of elderly service recipients (e.g., bringing children and animals to visit nursing homes). Finally, extensive communication, planning, and coordinating will likely help to reduce the chances of vendors pursuing self-interest with guile.

In sum, to address the challenges of contracting for services with problematic characteristics, governments can expect the transaction costs to be high. As suggested by a growing body of literature on managing contracts, governments must maintain or develop sufficient contract management capacity to mitigate these risks (Brown & Potoski, 2003a; Gansler, 2002; Kelman, 2002; Romzek & Johnston, 2002; Van Slyke, 2003).

Conclusion

In this paper we have outlined transaction cost theory and its application to contracting for local service delivery. Two service characteristics identify conditions when contracting is more risky. Asset specificity is the extent to which resources applied to delivering a service can be applied to other services. Highly asset-specific services are prone to monopoly markets. Ease of measurement is the extent to which the quality and quantity of service outcomes and outputs can be easily gauged. This paper presents results of a survey of public managers on their perceptions of the asset specificity and ease of measurement of 64 common municipal services. Results indicate considerable variability in these dimensions across services. We then apply these results to an ICMA survey of governments' service delivery practices and to a review of the literature to examine how trans-

action costs affect service delivery. Our review indicates that contracting for services that are asset-specific or difficult to measure poses certain challenges to successful service delivery. To mitigate the risks of contract failure, the transaction costs are likely to be high; successful service provision for these types of services requires sufficient contract management capacity.

We suggest several avenues for future research. First, although our classification of services along two transaction cost dimensions is consistent with the extant contracting literature, it still requires further empirical scrutiny. Studies along these lines should focus on how transaction cost considerations influence governments' decisions about whether to contract, how they manage contracts, and whether the contracts are successful. Second, asset specificity and ease of measurement are clearly not the only factors influencing these three questions. Although transaction costs clearly need to be included in any complete account of public-sector contracting, it is clear that contracting is also influenced by market structures, service delivery networks, and trust and experience among governments and vendors. We present transaction costs as a complement rather than an alternative to other contracting frameworks. One way to view a government's core competencies, for example, is to gauge the transaction costs the government would need to develop resources and expertise to deliver the services effectively. Likewise, equity and fairness in service delivery are notoriously difficult to measure, suggesting that internal service production may be warranted when such considerations are highly salient. Our purpose here was to present the theory of transaction costs and apply it to commonly delivered municipal services so that future research may bring about this integration more fruitfully.

Notes

1. We used the ICMA's 2001 *Municipal Yearbook* to construct our sample.
2. Every five years the ICMA conducts a survey of the service delivery practices of a large sample of local governments. We used the 64 services listed on the 1997 survey instrument.
3. There were 1,183 respondents to the 2002 ICMA survey.

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