Vertical Integration in Municipal Service Provision

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Introduction

Many scholars in recent studies of local government service delivery assume that governments pursue efficiency gains not by simply privatizing their services, but also by carefully choosing different service production modes that fit their circumstances. Along with market and institutional factors, transaction costs characteristics of services, and how they influence local governments’ choice of production mechanisms, have been extensively explored in this line of research (e.g., Ferris and Graddy 1986; Brown and Potoski 2001, 2003). In general, this literature finds services are more likely to be privatized when the nature of those services is less subject to market failure or high transaction costs. Scholars in this vein of research also recognize that governments tend to abide by traditional production mechanisms (i.e., in-house service production) or prefer joint contracting to complete contracting when services are difficult to measure, require highly specialized investments, or have important distributional goals (Ferris and Graddy 1986; Stein 1993; Brown and Potoski 2001, 2003). As such, existing studies implicitly suggest that certain types of services are, by their nature, less suitable for privatization and thereby more likely to fail if they are privatized.

Lamothe and Lamothe (2005) find supporting evidence for such assertions by examining the types of local government services that have been contracted out and subsequently taken back in-house over time. Additionally, they report that in-house service production is more prevalent than perceived by privatization scholars thus bringing contracted services back in-house by the local governments is far more common than predicted in the contracting literature regardless of service types (see Lamothe and Lamothe 2005 for specific findings).

While Lamothe and Lamothe limit their analyses to types of service characteristics and their relationship with local service delivery arrangements, the recent work by Hefetz and Warner (2004) examine local service production modes in 1992 and 1997 to explore how internal and external goal incongruence, council manager form of government, market structure, monitoring, and concern about citizen engagement affect local governments’ decisions on contracting and
what they term reverse contracting (i.e., the bring back in-house of contracted services). While
their analytical framework provides useful information particularly with regard to the dynamics
involved in reverse contracting, it does not present a cohesive theory to explain the local
authorities’ decisions to internalize services after contracting. One critical factor that is missing
from their analyses is concerned with the characteristics of individual services and their impacts
on the efficiency of production. For example, Hefetz and Warner (2004) posit that goal
incongruence is greater with for-profit firms than with nonprofits and other municipal agencies
and thus predict that higher levels of for-profit contracting in previous years will lead to less new
contracting out and more reverse contracting. We argue that such a simple dichotomization can
not capture an accurate picture of local governments’ contracting decision-making process and
results. Strong evidence exists from previous studies that services with tangible, easy-to-measure
outcomes tend to be successfully privatized to for-profit companies and stay privatized (Ferris
and Graddy 1986). Like Hefetz and Warner (2004), we recognize the importance of provider and
internal organizational actors’ incentive structures. However, we emphasize that effects of such
components are often contingent upon the nature of the services produced. Another aspect that
has been overlooked by existing literature is related to the nature and impact of joint contracting,
where the providing government shares production with an external contractor and retains at least
some production capacity (DeHoog 1984).

This paper builds upon these previous studies and develops a theory of vertical
integration in municipal service provision. We view the vertical integration of services as more
than simply the reverse of contracting out; it is the product of distinct transaction problems
relating to the characteristics of services, the capacities and political incentives of local
government service providers, and the market contexts in which they are imbedded (see Feiock
and Jang 2003). In order to investigate how these transactional as well as non-transactional
factors determine local governments’ decisions to vertically integrate previously outsourced
services, we examine changes in municipal service delivery arrangements between 1997 and
We begin by discussing the concept of vertical integration. Next, we present our model predicting the likelihood of municipal governments’ decisions to take contracted services back in-house and describe the data and methods used for the analyses. Discussions of the results and implications are provided at the end.

**Vertical Integration of Municipal Service Delivery**

The phenomenon we refer to as “vertical integration” of municipal services has been referred to as “privatization failure” (Sappington and Stiglitz 1987; Clingermayer and Feiock 1997, 2001), “contract failure” (Lamothe and Lamothe 2005) and “contracting back in” (or “reverse contracting”) (Hefetz and Warner 2004). We choose the term vertical integration to link our arguments directly to transaction costs theories of vertical integration in firms pioneered by Williamson (1971, 1981, 1986). The terms privatization failure and contract failure are somewhat pejorative and do not reflect that vertical integration may signify government success in manipulating the market to identify when to internalize. Contracting “back in” suggests that services that move from contracted production to in-house government production were produced in-house at one time and then outsourced. This is not the case if market production arrangements are utilized when services are first introduced as recent work suggests (Feiock, Clingermayer, and Dasse 2002).

Vertical integration is evidenced when services are contracted out to alternative producers at some point in time and are subsequently taken back in-house or internalized by the government providing the services. Vertical integration is a response to transaction costs of certain good, which lead to difficulties with contract design and management, poor provider performance, or undesirable outcomes (Williamson 1986; Domberger and Jensen 1997). Internalizing productions does not eliminate transaction costs, but its bureaucratic processes allow opportunism to be controlled though low power incentives (Williamson’s 1986).
In addition, we argue that internalization of production can be a response to market conditions, capacities for production and administration within government, or political, distributional, and other preferences of public decision makers.

**Transaction Cost Characteristics of Municipal Services**

Williamson (1981) argues that organizations select governing structures (i.e., internal production vs. market) to carry out different functions in ways that minimize transaction costs as well as traditional production costs such as fixed assets, labor, and capital. Factors that determine the extent of transaction costs include asset specificity, metering, and the frequency of contracting (Williamson 1981). Brown and Potoski (2003) operationally define the first two components in developing their service typology and examine how transactional characteristics of services affect local governments’ contracting decisions. We modify their framework in an attempt to explore why some jurisdictions decide to vertically integrate previously contracted-out services. Our emphasis is on how the transactional nature of services interacts with the scope of contracting and the provider type in determining local governments’ delivery arrangements rather than simply examining the direct effects of such service characteristics.

**Asset Specificity**

“Asset specificity” refers to the specialized investments required to perform a task. Services requiring high asset specificity, such as large equipment or computer software specifically designed to perform certain functions, tend to benefit the first rounder or existing provider in the bidding process because of the high barrier to initial entry into the market, and tend to provide incumbent contractors with monopolistic bargaining power in subsequent rounds of procurement negotiations. Monopolistic contracting environments increase transaction costs for local governments because they amplify the potential for opportunistic behavior on the part of providers. Existing literature predicts that governments tend to internally produce services when
the level of asset specificity and related transaction costs are high (Brown and Potoski 2001). What previous studies overlook is the impact of asset specificity and its interactions with other contractual conditions on local governments’ vertical integration decisions.

We argue that high levels of asset specificity are less conducive to vertical integration once services are contracted out despite the concern for transaction costs. We posit two potential reasons for this expectation. First, the buyer (local government) and the seller (contractor) tend to develop bilateral interdependency, which often leads to a long-term contractual relationship (Williamson 1986). While entering into lengthy contractual obligations under uncertain future circumstances and limited contract specifications is precisely the precondition for increasing transaction costs (Williamson 1981, 1986, 1991), the recent contracting literature recognizes a somewhat different trend in world of government contracting with the emergence of the “relational contract” under conditions of complexity, high uncertainty, and unpredictable change. In a relational contract, parties enter into a contractual relationship to work together for mutual benefit, often under loosely defined standards of performance. Flexible relational contracts that leave the details to be filled in later have been regarded as essential in complex settings (Sclar 2000; Milgrom and Roberts 1992).

Second, a practical explanation for our prediction comes from the notion that highly asset-specific services require large investments of fixed assets (Brown and Potoski 2003). Vertical integration is a more efficient delivery mechanism only when transaction costs for managing contracts exceed cost savings from external production (Williamson 1986). Moreover, fixed production costs are much more tangible than transaction costs unless there is egregious behavior by contractors and the resultant inefficiencies are revealed. Considering the fact that fiscal crisis has become a commonly shared environment for local government operations, it should not be surprising if high asset specific services, with their prohibitive production costs are less likely to be internalized integrated once outsourced. In the simplest terms, many jurisdictions lack the resources to cover the “start-up” costs associated with integrating these services.
Conditioning factor to the impact of asset specificity – scope of contracting: In the previous section, we hypothesize that asset specificity is negatively related to vertical integration because of its association with high fixed production costs and barriers to entry. However, the obstacles to vertical integration can be mitigated through the use of joint contracting. Jurisdictions utilizing complete contracting will face larger financial burdens in their integration efforts than their counterparts who maintained some internal production capacity.

Joint contracting is the second most frequently adopted service delivery mode of local governments (Brown and Potoski 2003b) across service areas, yet few studies explore the dynamic roles it plays in service arrangement decisions. Brown and Potoski’s (2003b) study is an exception, but their analyses are limited to examining how types of services determine the adoption of joint contracting and do not explore how jointly contracted services change over time. While we expect that joint contracting makes it easier for governments to bring their once outsourced services back, having joint contracting, in and of itself, does not necessarily motivate public policymakers to internalize. Rather, the maintaining of some production capacities within governments could serve to discourage contractors’ potential opportunistic behaviors by providing public officials with comparable information on provider performance and operation costs. Moreover, providers’ opportunism could be curbed if they see the existence of the governments’ production capacities as a credible threat to replace their contracts whenever the contracting governments want to take their services back. As such, simply choosing joint contracting rather than complete contracting can reduce potential transaction costs and lessen the motivation to internalize. In addition, if the characteristics of jointly contracted services are conducive to successful market delivery (i.e., services with low asset specificity and/or difficult metering), there is no reason to believe that joint contracting is positively associated with high level of vertical integration.
Given the above discussion, we posit that vertical integration of highly asset-specific services is likely to increase when governments jointly produce those services.

**Metering**

“Metering” refers to the degree of difficulty associated with measuring outputs and monitoring whether contractors comply with contract requirements and accomplish contract goals. Difficult-to-measure services increase transaction costs to local governments because governments cannot effectively assess whether, and to what extent, vendors hide their true performance, thus maximizing the potential for opportunistic behavior on the part of contractors. Internalization of production does not necessarily eliminate transaction costs. Rather, it allows governments to utilize internal control mechanisms (e.g., selective use of employment, promotion, remuneration, resource allocation, etc.) to more effectively minimize the costs of monitoring and evaluating performance (Williamson 1986). Just as services with difficult metering are less likely to be contracted out (Brown and Potoski 2003), we posit that governments are more likely to integrate them as monitoring and evaluation of contract performance become more difficult.

**Conditioning factor to the impact of metering – provider type**: As with the case of asset specificity, simply taking metering into consideration may not be sufficient to explain why local governments sometimes choose to internally produce rather than privatize difficult-to-measure services. A close examination of the services with difficult metering suggests that many such services involve health and human service programs (e.g., drug and alcohol treatment, mental health, child welfare, etc.), which requires intensive labor in service deliveries. Scholars note that the private sector may have advantages in terms of cost savings in labor-intensive services due to different labor practices across the sectors because private contractors tend to utilize less qualified staff, part-time workers, flexible hiring and firing policies, and lower levels of compensations and benefits (Ferris and Graddy 1986). Despite such tangible production cost
savings, goal incongruence between the service providing governments and the contractors and potential moral hazards and rising transaction costs as a result could be a significant concern for public managers. To overcome such dilemma, local governments often rely on non-profits for providing these services. Non-profits can compete with for-profit firms in terms of labor costs because they can effectively utilize volunteers (Lamothe and Lamothe 2005). Moreover, their missions and goals are considered more congruent with the governments (also citing Frumkin 2002) and thus concerns regarding moral hazards can be a minimized. Perception of goal incongruence and related transaction costs can be much greater when difficult-to-evaluate services are contracted out to for-profit firms owing to their profit-maximizing nature. Therefore, we posit that vertical integration is more likely when services with difficult metering are contracted out to for-profit organizations than nonprofits and/or other government agencies.

**Jurisdictional Characteristics**

While understanding the role of transaction cost characteristics of services and their interactions with the scope of contracting and the provider types assists in understanding local governments’ vertical integration decisions, it provides an incomplete picture as to why governments sometimes prefer internalization of production to continued outsourcing. Local service delivery arrangements are often a product of complex dynamics among political, managerial, fiscal, and local market conditions. These factors may be of particular importance in decisions to take contracted services in-house because they tend to be more visible than inefficiencies resulting from transaction costs and directly affect policy decision makers and public managers.

**Political/Managerial Structure**

Several studies have linked contracting to council-manager governments with an appointed professional manager (e.g., Clingermayer and Feiock 2001). City manager’s training
and professional associations value innovation and efficiency in service provision (Lubel and Feiock 2004). Moreover, recent work suggests that professional managers have strong incentives to contract out services because they can capture the residual of efficiency gains from contracting through the job market for local government managers (Stein 1993; Ruhil et al 1999; Feiock, Clingermayer, Lu, and Kopp 2004). Therefore, we hypothesize that council-manager governments are less likely to vertically integrate their services.

**Contract Management Capacity**

Researchers studying privatization recognize that successful government contracting is largely dependent on how effectively public officials manage contracts and monitor providers’ performance (Wise 1997; Sclar 2000). Brown and Potoski (2003) identify three aspects of contract management capacity: feasibility assessment, implementation, and evaluation. Conducting feasibility analyses prior to considering privatization and well-laid out implementation plan can better prepare public managers when they engage in actual procurement and bidding processes. By knowing what they try to achieve through contracts and carefully selecting vendors who are able to deliver services according to clearly specified performance criteria, public managers can write more articulate contracts, which prevent many potential problems when executing and enforcing contracts. Regular monitoring and periodic evaluation of provider performance are also critical in ensuring effective contract management since they alert the providers to “stay the course” in terms of contract compliance and contract goal achievement, especially when contracts are written with vague terms and conditions (Milward 1996; Lamothe 2004). Hence, we hypothesize that high levels of contract management capacity generally lead to successful contracts and should be negatively associated with vertical integration.

**Market Conditions**
Efficient service delivery through competitive markets has been the main rationale for proponents of privatization (e.g., Savas, need to cite others). Where alternative private service producers are lacking, contracted production may not result in anticipated cost reduction because noncompetitiveness creates monopolistic or oligopolistic environments for the few vendors who enter into contractual relationships. Vertical integration is more likely when such monopolization occurs. Geographical location of the governments may affect levels of competitiveness since there are generally larger pools of available private providers in metropolitan areas than in non-metropolitan areas. Therefore, our expectation is that vertical integration is more likely when governments are located in non-metropolitan areas.

**Data and Methods**

Every five years the International City/County Management Association (ICMA) conducts a comprehensive survey of municipal and county government services delivery arrangements (e.g., 64 specific services were included in the 1997 survey and 67 in the 2002 survey). We pool the 1997 and 2002 survey data to examine how local service production modes changed over time. While the unit of analysis in the original surveys is jurisdictions, we restructure the data set such that each case presents two years of responses for each jurisdiction-service (e.g., case 1 contains city 1’s production choice for service 1 for both 1997 and 2002). Therefore, our unit of analysis is the individual services provided by the local governments responding to both the 1997 and 2002 surveys. Additionally, we apply several exclusion rules to our final working data set. That is, we exclude: 1) services that were internally produced in 1997 since our research explicitly focuses on vertical integration; 2) services that were not provided by jurisdictions in one or both years because our goal is to examine delivery mechanisms over time; 3) services produced by jurisdictions that are other than municipal governments. The last exclusion is mainly due to lack of contemporaneous jurisdiction level data availability for county
governments. In the end, our final working data set consists of 5,039 observations with 347 locales.

**Dependent Variable**

The dependent variable is the municipal governments’ decisions on their service production choices. Specifically, we explore factors at the service and jurisdiction levels that affect the likelihood of local governments’ decisions on vertical integration. Each observation is coded zero if the service contracted out in 1997 remained contracted out, in the form of either complete or joint contracting, in 2002 and one if its production was moved entirely in-house (i.e., vertically integrated). While a few previous studies examine changes in contracting patterns for local alternative service delivery (Hefetz and Warner 2004; Lamothe and Lamothe 2005) this analysis is first to explore vertical integration at both service and jurisdiction levels.

**Independent Variables**

The independent variables include transaction cost characteristics of goods, their interactions with the scope of contracting and the provider types, form of government, contract management capacity, market competitiveness, geographical location of the cities, and various control factors.

We measure transaction costs of goods based on the ratio level measures of asset specificity and meterability adopted by Brown and Potoski (2003). Both measures are five-point scales, such that a score of “5” indicates the highest levels of transaction costs (i.e., high potential for monopoly and difficult metering, respectively). The scope of contracting and the provider types are measured dichotomously. As such, the scope of contracting is coded one if the service was partially contracted out (i.e., joint contracting) in 1997 and zero if it was entirely contracted out to various providers (i.e., complete contracting). For the type of providers, an observation is
coded one if the service was contracted out to for-profit providers in 1997 and zero if it was contracted out to nonprofits and other government agencies.

The influence of the form of government is measured dichotomously. A case is coded one if the jurisdiction is a council-manager government. We adopt Brown and Potoski’s (2003) measure of contract management capacity. Three capacity measures constitute the concept of contract management capacity: feasibility capacity, implementation capacity, and evaluation capacity. Each capacity measure scores one if the government conducted the feasibility study prior to privatization, made efforts to ensure successful implementation, and attempted systematic performance evaluation of privatized services, respectively. The total score is the sum of these three capacity measures and thus ranges from 0 to 3. We use the number of private firms available in the jurisdiction as a proxy for market competitiveness. Another indicator for market conditions is related to geographical location of the jurisdiction and dichotomously coded as one if the jurisdiction is in a metropolitan area and zero otherwise. While market conditions may vary greatly depending on what types of services are solicited and thus these jurisdiction level measures are only a limited representation of market conditions for individual services, we assume that decision makings on vertical integration can also be determined by overall perception of market availability rather than specific competition levels in the bidding process.

The analyses also control for socioeconomic conditions in communities that are linked to public service demands and diversity in service preferences including population change, household income, and percent of non-Hispanic white.

Results

Turning to the results, we find support for the assertion that service characteristics are influential in the vertical integration decision-making process. We also see that the impact of these variables is conditioned on both the scope of contracting and provider type. The
evidence found in Table 1 indicates that, as expected, completely contracted services with higher asset specificity are less likely to be brought in-house ($\beta = -.264$, $p < .001$).\(^4\) Holding all other variables at their means (dichotomous variables at zero) and increasing the asset specificity score by one standard deviation results in a 6.4% drop in the probability that the jurisdiction will choose to integrate the services. The coefficient on the interaction term, “Joint X Asset,” indicates differential impacts of asset specificity on vertical integration depending on the scope of contracting. Specifically, the delivery of jointly contracted services with higher levels of asset specificity is more likely to be internalized than is delivery of similar services in which the providing government has not maintained in-house capacity ($\beta = .244$, $p < .001$). Ceteris paribus, the substantive impact of moving from complete to joint contracting is to increase the likelihood of vertical integration by 10%.$^5$

Difficulty in measuring and monitoring service inputs, outputs, and contract compliance also appears to influence integration decisions. While difficult metering is not related to the probability of internalization when services are contracted out to non-profit or other governmental providers ($\beta = -.033$, $p = .482$), for-profit production of such services is associated with an increased likelihood of vertical integration ($\beta = .303$, $p < .001$). However, in this instance the overall effect of delivering services via for-profit entities as opposed to non-profits or other governments, while holding all other variables constant, is to decrease the probability of bringing the service in-house by 10.6%. This is due to the strong negative relationship between for-profit delivery of services with extremely easy metering and the dependent variable ($\beta = -1.131$, $p < .001$), which overwhelms the impact of the multiplicative term.

In-line with the results of past research (for example, see Hefetz and Warner 2004), we also find support for the importance of accounting for jurisdictional characteristics when examining the determinants of vertical integration. Cities with council-manager governments,
greater contract management capacity, in metro area locaiton, or with greater numbers of private firms are associated with lower levels of vertical integration, as posited. The parameter estimates for “Council-manager” and “Total Capacity” reached conventional levels of significance ($\beta = -.094$, $p = .04$ and $\beta = -.070$, $p < .001$, respectively). Those of “Metro” and “Total Private Firms” reached only marginal levels ($\beta = -.083$, $p = .061$ and $\beta = -.007$, $p = .053$, respectively).

Substantively, all of the jurisdictional variables are about 1/3 as influential as the service and production characteristic interactions, with the exception of “Total Private Firms” which is only associated with a 1.5% decrease in the probability of a service being moved to in-house delivery. Overall, service and production characteristics appear more influential than jurisdictional characteristics in determining the likelihood of service internalization.

**Conclusion**

Our contribution to the study of government contracting and local service delivery arrangements is twofold. First, vertical integration is an important area of study that has been almost completely ignored by the research community. The only notable exceptions, to our knowledge, are Hefetz and Warner (2004) and Lamothe and Lamothe (2005). Many studies focus on make-or-buy decisions at one time point, which provides only a partial picture of dynamic decision-making process in local service markets. What happens once services are outsourced despite the possibility that doing so may not necessarily result in efficiency gains? Do or should they remain privatized? What are the underlying forces that bring previously privatized services in-house? We explicitly model these “after-effects.”

Second, unlike Hefetz and Warner (2004) who limit their analyses to jurisdictional characteristics, we posit that service characteristics and their interactions with other contract attributes are critical in local governments’ decisions as to whether to internalize or stay in contractual relationships. Our results strongly support these hypotheses and highlight the importance of accounting for such effects.
Our findings indicate service characteristics play a key role when local public officials make decisions regarding whether to stay in contracts or internalize, and do so in the context of complex contractual environments. For example, past research indicates that local decision-makers may initially be reluctant to privatize highly asset-specific services due to concerns of increasing transaction costs. However, in light of our research, we conclude that once those services are contracted out, the chances to bring them back heavily depend on whether the providing governments retain production capacity in-house. Similar dynamics apply when difficult-to-measure services are contracted out. Vertical integration of such services varies depending on who delivers the services – for-profits or nonprofits and other governmental agencies. For-profit contracting of difficult metering services is more likely to lead to internalization than when such services are contracted-out to non-profits, other governments, or a combination of the two.

We feel that this research has moved the study of local government service delivery arrangements ahead for the afore mentioned reasons. However, obviously, many questions, concerns, and areas for future research remain. We close with some ideas as to gaps we feel are worthy of attention.

**Talk about future research needed on joint contracting.**

**limitation of our analyses and future research interests: selection effect.** Why certain services were initially contracted out will affect the local government decision factors on vertical integration. Examples: asset specificity – why it is hard to contract out by its nature, but once it is contracted, harder to internalize. Should examine factors that motivated decision makers to contract out despite potential increase in transaction costs.
References


### Table 1: The Determinants of Vertical Integration

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<th>$\beta$</th>
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<td><strong>Service and Production Characteristics</strong></td>
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<td>Asset Specificity</td>
<td>-0.264</td>
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<td>-0.064</td>
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<td>Joint Contracting</td>
<td>-0.597</td>
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<td>Joint X Asset</td>
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<td>Difficult Metering</td>
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<td>-1.131</td>
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<td>-0.106</td>
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<tr>
<td>For-profit X Metering</td>
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<td>0.086</td>
<td>-0.106</td>
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<td><strong>Institutional and Environmental Characteristics</strong></td>
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<td>Council-Manager</td>
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<td>Total Capacity</td>
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<td>Population Change</td>
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<td>Median Household Income</td>
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<td>Constant</td>
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<td>0.183</td>
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$^a$ “Influence” is defined as the change in predicted probability when, holding all other variables at their means and setting dichotomous variables to zero, the variable of interest is moved from its mean to one standard deviation above its mean or from zero to one for dummy variables.

$\chi^2 = 260.03, \ p = 0.000$

n = 5039
Notes

1 Joint contracting refers to a production mechanism where “a government contracts with another entity but retains a portion of the production of the service in-house” (Brown and Potoski 2001, 3).

2 Complete contracting refers to “when a government enters into a contract with another entity for the entire production and distribution of a service, although the government retains regulatory control over the ultimate service provision” (Brown and Potoski 2001, 3).

3 We discuss metering in the next section.

4 All reported p-values are based on one-tailed tests.

5 In calculating the overall influence for the qualitative conditioning terms (i.e., “joint” and “for-profit”), the mean values for the quantitative terms (i.e., “asset specificity” and “difficult metering”) are calculated only from those cases coded “1” on the qualitative variables.