

The Impact of Values and Service Characteristics and Markets on the Use of Joint Service Delivery in the United States

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Abstract: Local governments in the United States can select among an array of modes when deciding how to deliver a service. The traditional focus has been on the choice between direct delivery, where services are delivered exclusively through government employees, or contracted service delivery, where the local government enters into a contract with another entity to deliver the service. In this paper, we focus on the use of a third, relatively unexplored alternative: joint service delivery, in which a government shares responsibility for delivery of the service with another entity or entities. We examine how values and service markets and characteristics influence the use of five different joint service delivery modes. Our empirical results show that one-fifth of all services are delivered through joint modes. Local governments are most likely to use joint service delivery modes when citizens have a high degree of interest in the service, when services require moderately specialized investments and are difficult to specify; and there are multiple alternative providers with which to partner.

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The Impact of Values and Service Characteristics and Markets on the Use of Joint Service Delivery in the United States

Local governments in the United States can select among an array of modes when they decide how to deliver a service.¹ The basic choice is between direct service delivery, where governments use their own employees exclusively to deliver the service, and contract service delivery, where governments enter into a contract with another government, private firm, or non-profit organization to deliver the service (Warner and Hebdon 2001, Hefetz and Warner 2004, Levin and Tadelis 2010). The “make or buy” decision is often framed as a dichotomous choice between government and market provision (Ferris and Graddy 1991, Brown, Potoski and Van Slyke 2006, Bel and Fageda 2007, Johnston and Girth 2012), a view that obscures instances in which a government shares responsibility for delivery of the service with another entity or entities, perhaps by contracting for part of the service while retaining an active role in producing the service itself, a situation sometimes called joint service delivery. To be fair, some prior research examines joint service delivery as an alternative to direct or contract service delivery (Warner 2008, Brown, Potoski and Van Slyke 2008, Lamothe, Lamothe and Feiock 2008), but few studies have delved into the diversity of joint service delivery arrangements.

Joint service delivery is on the frontier of innovation in public management practice. While perhaps oversold by its New Public Management proponents, full contracting certainly has its place in the government arsenal. And for many ethical and practical reasons, some activities are best trusted to governments’ hands alone. In between lies a vast area in which maximizing public values requires finding the right form of partnership to bring together governments and its potential other government, for profit, and nonprofit partners. These joint service delivery arrangements require additional managerial competencies and capabilities, like coordination and joint decision making, beyond the traditional managerial tasks required for direct or contracted service delivery, like planning and monitoring.

Within the broad category of joint service delivery, we focus on five primary options that local governments can select between: joint delivery with another government; joint delivery with a private firm; joint delivery with a nonprofit; joint delivery in which the local government is a participant in a network of providers; and joint delivery in which the local government is an overseer of a network of providers. When local governments select among direct, contract and joint service delivery options, their choices are influenced by the value preferences of the community they serve and characteristics of the service and its market context. Simple services, like residential refuse collection, are easy to produce, easy to specify, and are typically characterized by thick markets, while complex services, like fire prevention and protection, are difficult to produce, difficult to specify, and don’t lend themselves to competitive markets. Simple services pose fewer risks than complex services when delivered through means other than direct service delivery. In general, contract delivery options are more likely to be used for simple rather than complex services and local governments are likely to rely on direct service provision for complex services. However, local governments are sometimes unable to produce complex services on their own and have to rely on alternatives to direct service delivery, like joint service delivery. Given the array of joint service delivery options, governments are likely to utilize different joint arrangements depending on the community’s value preferences and the risks posed by the service’s characteristics and market context.

¹ We use the generic term “service” to refer to public goods, services and products throughout this paper.

To test our propositions about the impact of values and service characteristics and markets on the use of different joint service delivery modes we draw on data from the International City/County Management Association's (ICMA) Alternative Service Delivery surveys from 2002 and 2007. We supplement our panel dataset with additional data from a variety of other sources. We first look at the use of joint service delivery modes relative to the use of direct and contract service alternatives. Then we focus on the use of each of the five joint service delivery modes. Our empirical results show that one-fifth of all services are delivered through joint modes. Local governments are most likely to use joint service delivery modes when citizens have a high degree of interest in the service, when services require moderately specialized investments and are difficult to specify; and there are multiple alternative providers with which to partner. Among the five joint alternatives, when there are multiple alternative providers, local governments use bilateral partnerships with private firms and nonprofits, and enter actively into networks. When there are fewer alternative providers local governments opt for partnerships with other governments. When services are difficult to specify, local governments also enter into partnerships with other governments or rely on a network of providers where the local government serves as an overseer.

This paper is divided into five sections beyond this introduction. In the first section we present our argument about how values and service characteristics and markets are likely to influence the use of joint service delivery, and we examine the different types of joint arrangements available to local governments in the United States. In the second section we describe the data and methods we employ to test our arguments. In the third and fourth sections we present our results and discuss our findings, respectively. In the final section we conclude by summarizing our findings and identifying implications for practitioners and future research.

Joint Service Delivery

Local governments in the United States have considerable discretion over the services they deliver to their citizens, including how they produce and convey the services they opt to provide. Drawing on a rich inquiry into the boundaries of private firms, the traditional service delivery question has been whether to produce a service exclusively with employees hired directly by the local government or to produce it through a contract with an external provider, albeit with local government employees managing the contract (Coase, 1937; Williamson, 1981, 1997). The choice between direct or contract service delivery is not a novel one – local governments in the United States have been making this basic choice since the founding of the republic.² The academic and analytical focus on the “make or buy” decision took on enhanced prominence, though, with the rise in the 1980s and 1990s of the New Public Management (NPM) movement, which heralded the private firm as the archetype of efficiency and effectiveness (Kettl, 1997). Among other tenets, the NPM movement promoted contracting as a superior alternative to direct service delivery (Hood, 1991).³

² While the focus is largely on federal government contracting, Nagle's (1999) *A History of Government Contracting* is perhaps the definitive historical work on public sector contracting. For a specific treatment of the history of local government contracting in the U.S. see Henry Nicholas' "Chapter 11 – Privatization: Government Contracting and Public Authority" of *Public Administration and Public Affairs* (2009).

³ New Public Management (NPM) has become a catch-all term for decentralizing, marketing, and automating the traditional roles, functions, and services of government. According to Hood (1991), the 'new public management (NPM)' movement is tied to efforts to halt government growth through public staffing and spending, move away from direct government provision for services, introduce information technology more fully into government to automate certain functions, and to incorporate an international agenda into public administration for comparative

Contracted service delivery is thought to be a preferable alternative to direct service delivery when the goal is to lower costs, spur cost efficiencies, or tap into innovations or specialized capabilities. There are risks, though, in relying on a vendor to deliver a service, notably the possibility of cost overruns, delayed delivery, or diminished service quality. To mitigate these risks and harness the benefits of contracting, local governments are best served by enhancing their capacity to manage contract service provision (Brown and Potoski, 2003). Such investments in contract management capacity can be costly, particularly in switching from direct to contract service delivery (Brown, Potoski, and Van Slyke, 2008).

The bright spotlight on the role of contracting in service delivery has obscured the use of an equally prominent alternative to direct service delivery, namely joint service delivery. Under joint service delivery, the local government plays a part in the delivery of the service, but does not deliver the service entirely with its own employees. Joint service delivery may succeed in delivering some of the same benefits of contracted service delivery, albeit with lower risks and costs. Some instances of joint service delivery are midpoints between direct and contract service delivery, with public employees performing some of the tasks required for delivery and a contract in place for the remaining tasks, or with a local government delivering the service directly to some constituents and a contracted vendor providing the service to other constituents (Warner and Hedbon, 2001; Brown, Potoski, and Van Slyke, 2007). Under other joint arrangements the local government works collaboratively, perhaps by engaging in a joint decision making and coordination process, with some other entity, like another government or an organized group of citizens, to “co-produce” the service (Brudney and England, 1983; Parks, et al., 1981). Finally, joint service delivery also encompasses instances in which local governments serve as a member of a network of actors who share resources or coordinate activities to deliver services (Milward and Provan 2000).

Previous research demonstrates that a range of factors drive the choice between direct and contracted service delivery, including political pressures, fiscal constraints, efficiency concerns, bureaucratic routines, growth demands, and past performance (Benton and Menzel, 1992; Carver, 1989; Ferris, 1986; Ferris and Graddy, 1986, 1991; Hart, Schliefer and Vishny, 1997; Hirsch, 1991, 1995; Stein, 1990). In any single mode choice, any one or all of these factors may play a role, but perhaps the most consistent and cogent explanation for mode choice across circumstances is the interplay between values and service characteristics and markets (Brown, Potoski and Van Slyke, 2006; Hefetz and Warner 2012).⁴ Values are the community preferences, like cost efficiency or service continuity, that local governments must balance as they make decisions about how to deliver services. The characteristics of services and their markets influence which modes are best suited to achieve stakeholder values. Generally speaking, when communities have a strong interest in the delivery of a service, the service requires specialized investments and is difficult to specify, and the market offers few alternative providers, local governments are likely to eschew contracting in favor of direct service delivery

and benchmarking purposes. NPM efforts are often stated as introducing competition into government for the purposes of enhancing performance and improving accountability (Lynn, 1998).

⁴ There is another important factor in play here which conditions the use of different service delivery modes, namely the institutional rules that govern what types of modes local governments can use in different circumstances (Brown, Potoski, and Van Slyke, 2006). While the U.S. local government system is highly complex and variable, we assume that institutional rules allowing the use of the different modes we describe here are the same across local governments. There are certain to be communities where certain options, like contracting, are either prohibited or demanded, but this instances are likely to be the exception and randomly distributed across communities and services.

(Brown, Potoski, and Van Slyke, 2006; Hefetz and Warner 2012). However, there are sometimes instances when these conditions are present but local governments lack the capacity or the capability to deliver the service. Instead of entering into a contract, local governments are to varying degrees likely to utilize a joint service delivery mode. In the sections below we discuss the likely impact of values and service characteristics and markets, respectively, on the use of joint service delivery. We follow this discussion with an examination of different joint service delivery options.

Values

For any service, the list of potential stakeholders is long: interest groups and attentive segments of the general public, elected officials, the media, public employees, administrative superiors, collaborators and partners, service recipients, and vendors. Service recipients and their interest groups may be primarily concerned with equality of treatment. Elected politicians may focus on political accountability and responsiveness. Administrative superiors may be most attuned to cost efficiency. These values sometimes conflict – ensuring equality of treatment may reduce cost efficiency (deLeon, 1995; Moe 1996; Seidman 1998; Kelman 2002, Van Slyke, Horne, and Thomas, 2005). Part of deciding how to deliver a service – that is what mode to select – is about deciding which mode best balances the trade-offs between these different values (Hefetz and Warner 2012).

In practice, given the swirling mix of value preferences in any community, we assume that local governments are generally risk averse, preferring service delivery options that reduce the chances of negative outcomes (e.g. cost overruns, delayed delivery to recipients, excessively low service quality). When citizens are keenly attuned to a service and have strong value preferences, whatever those preferences may be, local governments are likely to utilize service delivery modes which afford the highest degree of control, namely direct or joint service delivery with a single partner or network of partners in which the local government plays an active role. When community value preferences are strong, local governments are likely to select partners that are more closely aligned with the government's own preference set.

Service Characteristics and Markets

Local governments offer two basic types of services: simple services, which are easy to produce and specify (i.e. write down the service's outcomes, outputs or required activities), and complex services, which are difficult to produce and specify (Brown, Potoski and Van Slyke, 2010). Because simple services are easy to produce and specify, they lend themselves to the full range of service delivery modes. Local governments may opt to deliver these types of services directly, through contracts, or some joint partnership. Things become more complicated and potentially limited as services become more complex.

When services are difficult to produce, that is they require specialized investments, the risks of lock-in under contract increase; winning vendors have an advantage in subsequent rounds of contracting affording them greater opportunity to pursue self-interested actions that are damaging to the interests of the local government. However, local governments sometimes lack the resources or the capabilities to make the required specialized investments on their own. As the need for specialized investments increases, the likelihood of using a joint service delivery mode will increase. For services that require extremely high levels of specialized investments (e.g. water distribution), local governments may have few options but to contract with another provider rather than deliver directly or enter into a joint arrangement in which a contract is not

part of the partnership; the high fixed costs of producing the service likely require an explicit guarantee of a return on investment.

When services are difficult to specify, that is it is difficult to write down the service's activities, outputs, or outcomes, local governments are likely to increase their use of joint service delivery options relative to other options. Here they can still maintain a higher degree of oversight over the delivery of the service than if they had only contracted with another provider. Many services are difficult to specify because they require so many different tasks to be performed to achieve desired outputs or outcomes (e.g. many human and social services). In these instances, local governments are likely to enter into joint network arrangements in which different actors take on different tasks.

Local governments can't enter into partnerships if there's no one to partner with. The thickness of the market, in part a function of the characteristics of the service, will influence the use of different joint service delivery modes. Service markets that are thick with alternative suppliers offer more opportunities for alternatives to direct service delivery, in particular joint network arrangements. When markets thin out, local governments are forced to either produce the service on their own or not deliver it. The presence of partners is also a function of location. Local governments in urban or suburban jurisdictions have more opportunities to enter into joint partnerships, particularly with networks of providers, whereas local governments in rural areas are more likely to be limited in their partnership opportunities.

Joint Service Delivery Alternatives

Joint service delivery encompasses a wide variety of alternatives to direct and contract service delivery. Here we focus on five joint service delivery options available to local governments: joint delivery with another government; joint delivery with a private firm; joint delivery with a nonprofit; joint delivery through a network; and joint delivery as a network overseer. After providing a brief definition, we discuss the relative trade-offs of each option as a service delivery mode. Given the wide variety and complexity of joint arrangements, the definitions and discussion we offer below are more general than specific; our categorization imposes some boundaries on the concepts for analytical purposes, but we acknowledge that our catalogue is not comprehensive or definitively precise.

Joint Delivery with another Government

The U.S.'s polyglot intergovernmental system offers a wealth of partners for collaborative activities between governments (Wright, 1988). Sometimes these partnerships take the form of a contract (Brown, 2008), an arrangement we see as different from joint delivery because the partnership is based solely on a formally governed exchange. Other times, though, intergovernmental partnerships are less formalized, perhaps only governed by a memorandum of understanding. For local governments, joint service delivery with another government can be horizontal with a neighboring locality or vertical with a higher (e.g. a state agency) or lower (e.g. a township) level of government (Agranoff, 2007). These partnerships might involve sharing resources to deliver a service that spans neighboring communities (e.g. a park system) or coordinating activities to account for spillover effects of certain policy problems (e.g. joint policing to prevent crime). In any joint arrangement, both parties will incur coordination costs, but joint delivery with another government offers the potential benefits of scale, scope, or additional capabilities with low risk that the other party's self interest will lead to outcomes where one side is harmed by the other's behavior.

Joint Delivery with a Private Firm

Many local governments lack the size or the technical know-how to deliver some services on their own (e.g. disposal of hazardous materials). These deficits are important drivers in causing local governments to contract with private firms to provide the service (Bel and Miralles 2003, Dijkgraaf, Raymond, and Gradus 2008). Private firms and local governments have different motives (Stein 1990, Hirsch 1995, Bel, Fageda, and Warner 2010). Private firms are profit seeking institutions driven to provide a return on investment to their owners. Local governments are politically accountable institutions driven to balance an array of competing values. When the motives of private firms and local governments are not in alignment, there are risks in contract exchanges that one party's self interest can lead to a less than optimal outcome (e.g. a private firm can lower the quality of the service it delivers under contract to save costs and enhance its profits). Joint service delivery arrangements in which the local government retains a more active role in the delivery of the service, say in a public private partnership, may succeed in aligning the interests of the two partners or provide the local government more direct oversight over the private firm to prevent divergence from the stated goals of the partnership.

Joint Delivery with a Nonprofit

The partnership landscape is also populated with clusters of nonprofits in certain service areas, like health and human services and arts and cultural programming (Smith and Lipsky, 1993, Heinrich and Choi 2007, Van Slyke 2007, Gazley 2008, Lambright 2009). As with joint arrangements with private firms, local governments are likely to partner with nonprofits based in their jurisdictions because the nonprofit can offer something the local government lacks. Nonprofits often offer specialized expertise or localized knowledge of a particular service population, for example. A nonprofit may agree to partner because the local government can provide additional resources, like staff, or because the local government can connect nonprofit clients with other complementary services. While most nonprofits can't offer the scale or scope benefits that partnerships with other governments sometimes do, they can offer the specialized capabilities that some private firms can with lower risks of the nonprofit's self interest leading to behaviors that compromise the interests of the local government (Romzek and Johnston 2002, Brown, Potoski, and Van Slyke, 2007, Heinrich and Choi 2007, Gazley 2008, Lambright 2009,).

Joint Delivery through a Network

Some services, like public health programs or job training programs, require multiple domains of specialized knowledge (Provan, Isett, and Milward 2004, Provan and Milward 1995). In these instances, one partner sometimes is not enough. Even two organizations working together may not have sufficient resources or capabilities to conduct the array of tasks necessary to tackle the problem. Here local governments may enter into partnerships with a network of actors, including other governments, private firms, and nonprofits, with each partner performing a different task or offering needed redundancy to enhance capacity. Local governments may play different roles in these networks, sometimes serving as the organizing hub, but other times serving solely as a participant with some other organization taking on the role of convening and managing the network (Agranoff and McGuire 2003). Different organizations enter into networks for different reasons; local governments are likely to enter networked partnerships because it helps the government fulfill a service responsibility it's either incapable of performing on its own or can be done more efficiently and effectively through a network of providers.

Joint Delivery as a Network Overseer

Local governments don't always have to dedicate active labor or resources to a network to be a participant. Sometimes, local governments serve as overseers of networks, almost like a regulator in a market context. They might set the rules of participation or provide information to participants, but not actually devote their resources directly to actively perform the task of providing a service. For example, a local government may determine that it has the responsibility to enhance the cultural and arts offerings in its community, but not create its own cultural and arts programs or contract with other organizations to offer specific programs. Instead, it might make public spaces available for other organizations, like nonprofit or private dance or choral groups, to make use of for cultural activities. Here the local government may play a passive role of overseeing a larger network of providers, only to step in if the network begins to disintegrate or fail to provide sufficient service to meet community preferences. In this way, the local government is one step away from simply turning provision over to the "market".

Data and Methods

To investigate when local governments select joint service delivery practices, we draw on data from the ICMA's 2002 and 2007 "Profile of Local Government Service Delivery Choices" surveys and other sources. The ICMA survey asked a stratified random sample of municipal and county governments a battery of questions about which of 67 local services they provided and their service delivery mode for each service they deliver.⁵ As a result, the ICMA survey is possibly the strongest large sample study of governments' service production practices. The response rate for each of the two surveys is around one-quarter of those surveyed: of the 5,370 cities and counties that received surveys in 2002, 1,283 (23.9%) participated, and of the 6,095 cities and counties that received surveys in 2007, 1,599 (26.2%) participated. The surveys are generally representative of cities and counties along basic criteria such as population, geographic location, and metropolitan status. As expected, the samples are over-representative of council-manager governments: around 60% of the respondents in the two samples use this form of government. In this section we describe the dependent, independent, and control variables we use to measure our analytical constructs, as well as the methods we employ to analyze the data.

Dependent Variables

Evaluating cities' joint service delivery choices can best be studied by considering them in the context of their overall choices among all delivery approaches. The dependent variable is governments' service delivery mode for each delivered service. Respondents to the ICMA survey were asked which of the services their government provides and which service mode they use to deliver each service. This measurement is an important departure from previous research in that it examines different ways that governments can co-produce services. The dependent variable is the service delivery mode chosen by each government for each service it provided in 2002 and 2007, so that the responses of one government could be incorporated for 128 different services in our sample, although not every city provides every service. *Direct service delivery* is when respondents indicated that the service was provided by "your employees entirely." The three contracting categories, *contract with another government*, *contract with for profit*, *contract*

⁵ Earlier versions of the survey asked about 64 services. For comparability purposes and to link to other data sources we exclude the three services that have been added in recent rounds of surveys.

with non-profit, are when respondents indicated respectively that the service was provided via contracts with other governments, for profit firms, and non-profit organizations. From the IMCA survey responses, we coded six joint delivery categories. First, we coded the categories *joint with other government*, *joint with for profit*, and *joint with non-profit*, when respondents selected respectively the response “your employees in part” and just the category “another government,” “private for profit” or “private non-profit”, respectively. We then coded two categories for cases where more than two organizations delivered the services. *Joint through a network* measures cases where respondents selected “your employees in part” and two or more of the other three organizations. *Joint as a network overseer* measures cases where respondents did not select “your employees in part” but selected at least two of the other cases. Finally, the category *Joint not specified* contains cases where respondents selected “your employees in part” but did not indicate another organization delivering the service.⁶ Table 1 lists the delivery mode categories and their frequencies for each year of the survey.

Table 1: Percentage of Services Delivered by Mode, 2002 and 2007

Mode	2002	2007
Direct Delivery	60.58%	55.09%
Contract with Another Government	7.40%	13.29%
Contract with Private Firm	6.62%	9.67%
Contract with Nonprofit	1.87%	3.18%
Joint Not Specified	6.68%	8.36%
Joint with Another Government	3.73%	1.91%
Joint with Private Firm	9.53%	5.90%
Joint with Nonprofit	1.3%	.84%
Joint through a Network	1.66%	.76%
Joint as Network Overseer	.63%	1.01%

Note: N=39,387 services in 2002 and 51,362 services in 2007

Independent Variables

The key independent variables are based on factors effecting the costs and benefits of delivering services via the ten different modes. To measure values we draw from Hefetz and Warner’s (2012) recent government contracting studies. The variable *citizen interest* measures the level of public interest in how each service is delivered, based on a survey of municipal administrators, with a rating of 1 indicating a low level of interest and a rating of 5 indicating a high level of interest. Following previous research (e.g., Brown and Potoski 2003), we use the measures *specialized investments* and *ease of specification* to measure the transaction cost characteristics of each service.⁷ The variable *specialized investments* measures the extent to which the services require assets that lose value if not put to use for delivering the service. The

⁶ Cases where the government indicated “your employees in part” and “volunteer” were coded as being in the *direct* category. Excluded from the analysis were cases where the government indicated “franchise” and “subsidy” if we could not identify the franchise or subsidy recipient.

⁷ See Brown and Potoski 2005 for details on how these measures are operationalized. Note that we’ve changed the labels from *asset specificity* to *specialized investments* and *ease of measurement* to *ease of specification* to better align with our analytical constructs.

variable *ease of specification* measures the extent to which the service's activities, outputs and outcomes can be written down and quantified in contractible terms. Since the effects of *specialized investments* and *ease of specification* on service delivery choices may vary across their values, we include the variables' squared terms, *specialized investments*² and *ease of specification*². To measure market characteristics for any service, we draw again on recent Hefetz and Warner data (2012). *Market competition* measures the number of alternative (to direct government provision) suppliers for each service, and is scaled 0 (for no alternatives to direct government provision) to 4 (four or more alternative suppliers). Two variables measure the government's location. *Center City* is a dummy variable scored one if the government is a central city in a metropolitan area and *Non-metro* is a dummy variable scored one if the government is not in a metropolitan area. The reference category is non-central governments in metropolitan areas.

Control Variables

The analyses include several control variables for factors that might influence governments' choices of service delivery modes. We control for form of government with a dummy variable called *council-manager* scored one if the government is a council-manager form of government, else zero. The variable *county* is scored one if the respondent is a county, else zero. *Population* is the (logged) number of people living in the government's jurisdiction. We also control for the year of the survey by including a dummy variable called *Year (2007)*, scored one for the 2007 survey results and zero for the 2002 survey results. Table 2 reports the descriptive statistics for all the dependent, independent, and control variables in our analyses.

Table 2: Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
Dependent Variables				
1a. Direct Delivery	.57	--	0	1
1b. Contract with Another Government	.11	--	0	1
1c. Contract with Private Firm	.08	--	0	1
1d. Contract with Nonprofit	.03	--	0	1
1e. Joint Not Specified	.08	--	0	1
1f. Joint with Another Government	.03	--	0	1
1g. Joint with Private Firm	.07	--	0	1
1h. Joint with Nonprofit	.01	--	0	1
1i. Joint through a Network	.01	--	0	1
1j. Joint as Network Overseer	.01	--	0	1
Independent Variables				
1. Citizen Interest	3.00	.76	1.5	4.83
2. Specialized Investments	3.00	.63	1.75	4.22
3. Specialized Investments Squared	9.41	3.85	3.06	17.81
4. Ease of Specification	2.60	.54	1.53	4.29
5. Ease of Specification Squared	7.07	3.02	2.34	18.40
6. Market Competition	1.62	.85	0	1
7. City Center	.22	.42	0	1
8. Non-Metro	.27	.44	0	1
9. Population (logged)	10.35	1.23	7.83	15.12
10. City Manager	.22	.58	0	1
11. County	.19	.19	0	1
12. Year (2007)	.57	.57	0	1

Note: N=87,009 total services

Methods

We use multinomial logit to evaluate our hypotheses. Multinomial logit provides an analytical mechanism for examining the effect of a constellation of independent variables on the likelihood of respondents choosing among a multi-category dependent variable (Long, 1997). The intuition behind the approach is that each model selects a reference category (such as “direct service delivery) and then estimates for each of the other dependent variable categories coefficients estimating the independent variables’ effects on being in that category relative to the reference category. Rotating the reference category among all dependent variable categories produces coefficients of the probabilities in being in each category relative to all other categories for each independent variable. Interpreting multinomial logit models is complicated by the potentially large number of independent variables. In our case, with six key independent variables and a ten category dependent variable, there are 60 independent variable coefficient meriting attention. Interpreting the independent variable coefficients is further complicated by multinomial logit’s non-linear functional form and by fact that we are looking to evaluate the effects of six key independent variables across ten delivery modes. To ease interpretation we present “predicted effects” summarizing the coefficients for the key independent variables (Long 1997). Service delivery choices are unlikely to be independent within cities, although we assume independence across cities. That is, the factors that compel a city to contract for one service may also compel contracting for other services. Treating these choices as independent may potentially risk artificially deflating the standard errors. To address this issue, we follow White’s approach for robust standard errors, clustered by government (Greene 1997). This adjustment essentially

weights each observation (service delivery choice) by the number of services a city provides. All estimations were conducted using the mlogit command in Stata v. 10.

Results

In this section we report our overall results about the impact of values and service characteristics and markets on the use of different modes of joint service delivery. We first report the use of the ten different modes in our complete analyses to highlight the use of joint service delivery modes relative to other modes. Next we present the results of multinomial logit analyses on the impact of all of the independent and control variables on the use of different service delivery modes. Finally, we focus our presentation by reporting the predicted probabilities of selecting one of the ten different modes in our analysis for the primary independent variables we use to measure values and service characteristics and markets. Overall, the results support our general propositions: the variables we use to measure values and service characteristics and markets have significant and substantive impacts on the use of different joint service delivery modes. Given the complexity of our analyses we save our discussion of the specific impact of these variables on the use of different joint modes to the subsequent findings discussion.

Figure 1 reports the use of each of the ten service delivery modes across all services provided by local governments in the 2002 and 2007 surveys. As has been the case in past surveys, direct service delivery is the dominant mode used by local governments with 60.58% of services in the 2002 survey and 55.09% of services in the 2007 survey delivered directly. The use of contracted service delivery is notable as well, with 15.89% of services in the 2002 survey and 26.14% of services in the 2007 survey delivered via a contract with another government, for profit or nonprofit. For our purposes, though, the focus is on joint service delivery, a category utilized at a level comparable to contracted service delivery. In the 2002 survey, 23.53% of services were delivered through a joint arrangement, and in the 2007 survey, 18.78% of services were delivered in the same way.

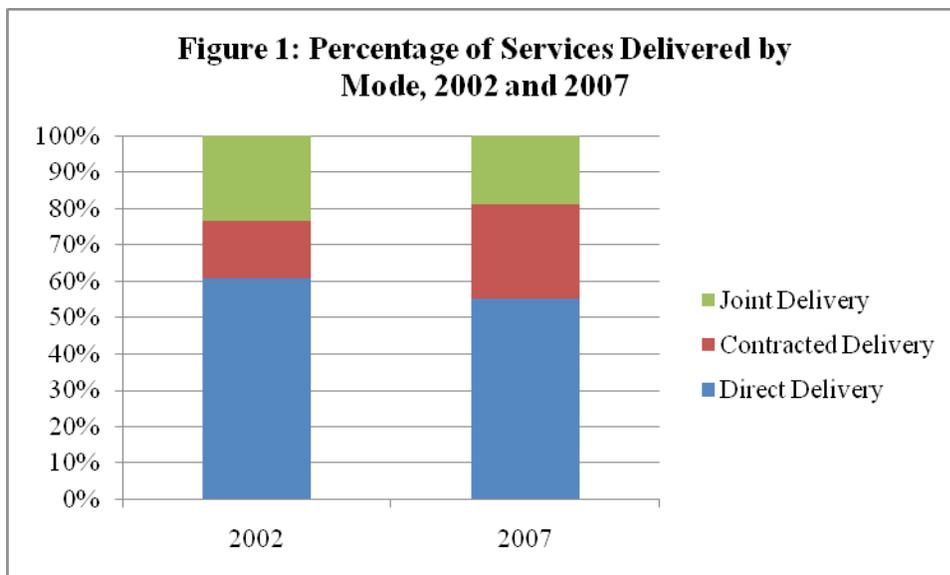


Table 3 reports the multinomial logit results for the impact of each of the independent and control variables on the use of different service delivery modes. Given that direct service

delivery is the dominant service delivery mode, it makes the most sense to use this category as the base reference category. Almost all of the independent and control variables are statistically significant and impact the use of alternatives to direct service delivery in the ways anticipated. The table produces a wealth of results worthy of discussion. However, given the focus of this paper on the use joint service delivery modes, we focus our presentation on the five joint categories of interest.

Table 3: Multinomial Logit Analysis of Local Governments' Service Delivery Practices

<i>Independent Variable</i>	<i>Contract with ...</i>		
	<i>Another Government</i>	<i>For Profit</i>	<i>Non Profit</i>
Citizen Interest	-0.505**	-0.093**	-0.391**
Specialized Investments	3.189**	1.161**	7.792**
Specialized Investments ²	-0.337**	0.110**	-1.046**
Ease of Specification	-1.475**	-1.345**	4.880**
Ease of Specification ²	0.333**	0.040	-0.623**
Market Competition	-0.416**	1.722**	0.446**
Center City	-0.280**	-0.698**	0.241*
Non-metro area	-0.725**	0.612**	0.059
Population	-0.172**	-0.064*	-0.134**
City Manager	0.235**	0.073	0.380**
County	0.242*	-0.080	0.525**
Year (2007)	0.608**	0.427**	0.607**
Constant	-3.226**	-5.856**	-24.438**

<i>Independent Variable</i>	<i>Joint with ...</i>			
	<i>Not Specified</i>	<i>Other Government</i>	<i>For Profit</i>	<i>Non Profit</i>
Citizen Interest	0.122**	-0.023	-0.191**	0.291**
Specialized Investments	2.464**	1.899**	2.905**	6.879**
Specialized Investments ²	-0.331**	-0.194**	-0.370**	-1.054**
Ease of Specification	0.435*	0.178	4.884**	2.699**
Ease of Specification ²	-0.112	-0.041	-1.069**	-0.241**
Market Competition	0.822**	-0.253**	1.319**	0.755**
Center City	-0.293**	-0.305**	-0.319**	0.156
Non-metro area	0.327**	-0.681**	0.469**	0.583**
Population	0.064*	-0.035	0.227**	0.283**
City Manager	-0.016	0.004	0.114	0.151**
County	-0.053	0.237	-0.189	-0.093
Year (2007)	0.314**	-0.582**	-0.331**	-0.289**
Constant	-9.251**	-5.914**	-16.716**	-25.774**

<i>Independent Variable</i>	<i>Joint...</i>	
	<i>Through a Network</i>	<i>As a Network Overseer</i>
Citizen Interest	0.643**	0.006
Specialized Investments	4.547**	3.701**
Specialized Investments ²	-0.683**	-0.370**
Ease of Specification	-2.866**	-1.910**
Ease of Specification ²	0.629**	0.483**
Market Competition	1.022**	0.990**
Center City	-0.499**	-0.168**
Non-metro area	0.168	0.375**
Population	0.176**	-0.006
City Manager	0.224**	0.390**
County	0.480	-0.100
Year (2007)	-0.651**	0.511**
Constant	-13.799**	-12.965**

N (overall) = 87,009	N (cities) = 2,147
Chi ² (108)	13,146.49**

Figures 2-5 plot the changes in the predicted probability of being in each service delivery mode across four of the key independent variables, holding the effects of all other variables constant at their means.⁸ These figures are based on the multinomial logit results presented in Table 3. The Y axis reports the probability of being in each respective service delivery mode and the X-axis of each figure is the independent variable scaled as percentiles from one to 99. As Figure 2 reports, as the variable *citizen interest* increases the predicted probability of a local government selecting a joint service delivery mode increases. As Figure 3 reports, as the combined variables *specialized investments* and *specialized investments*² increase, the predicted probability of a local government selecting a joint service delivery mode initially increases and then decreases to a lower predicted probability than when the independent variable is at its lowest levels. As Figure 4 reports, as the combined variables *ease of measurement* and *ease of measurement*² increase, the predicted probability of a local government selecting a joint service delivery mode increases substantially. Finally, as Figure 5 reports, as the variable *market competition* increases, the predicted probability of a local government selecting a joint service delivery mode increases substantially.

⁸ We don't produce predicted probability figures for the city center and non-metro variables, since the market competition variable better captures the underlying analytical construct.

Figure 2: Predicted Probability of Service Delivery Mode by *Citizen Interest*

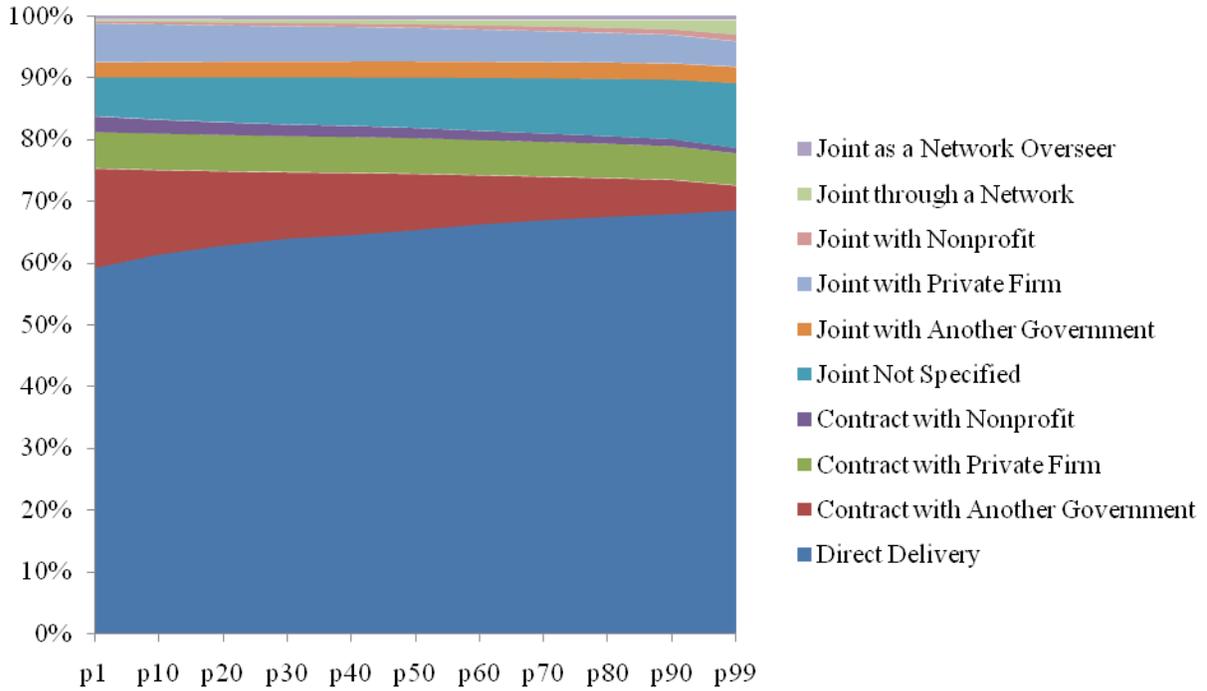


Figure 3: Predicted Probability of Service Delivery Mode by *Specialized Investments and Specialized Investments²*

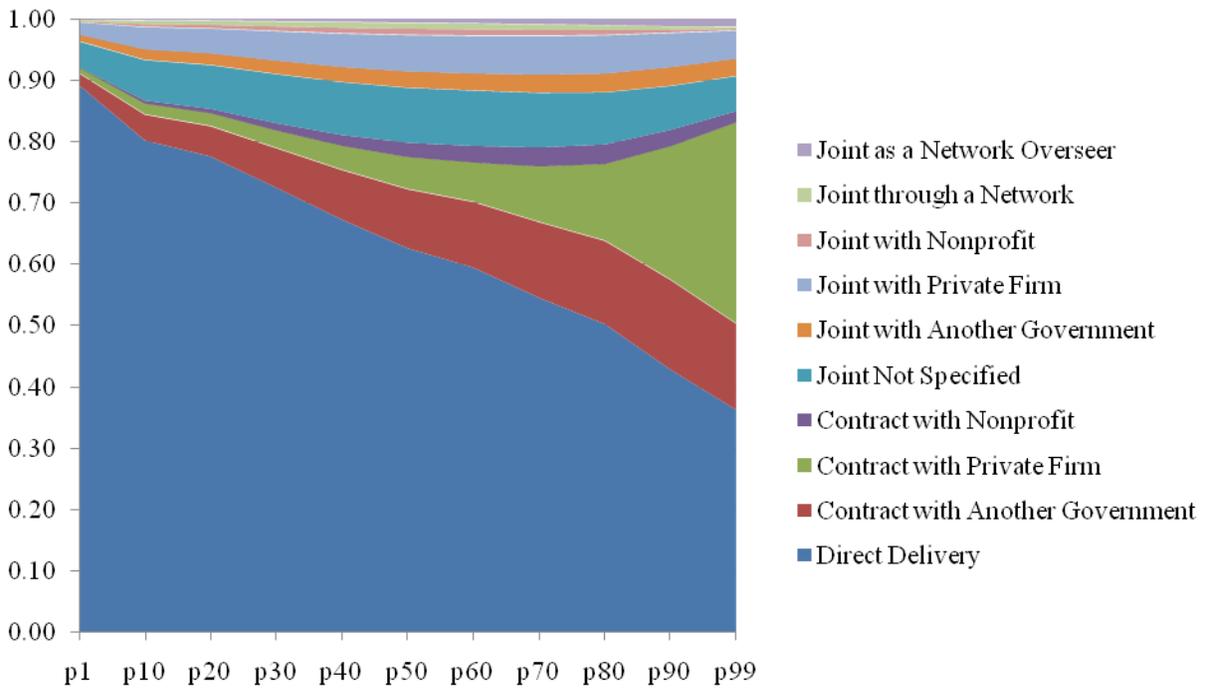


Figure 4: Predicted Probability of Service Delivery Mode by Ease of Specification and Ease of Specification²

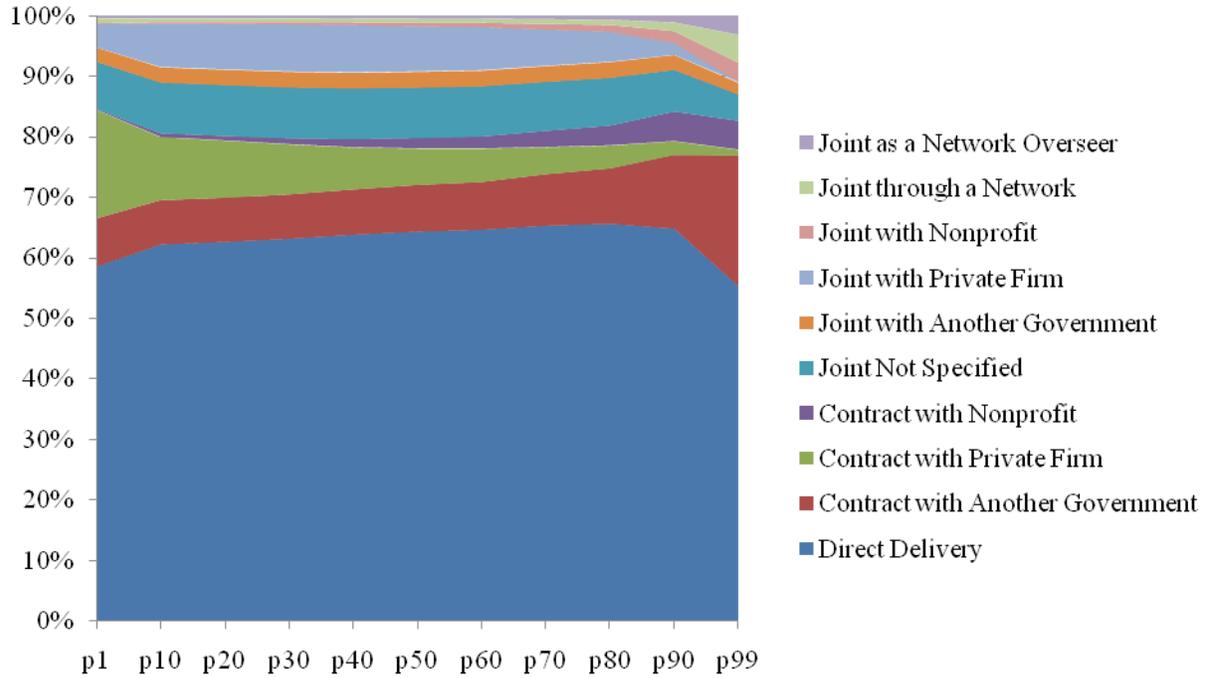
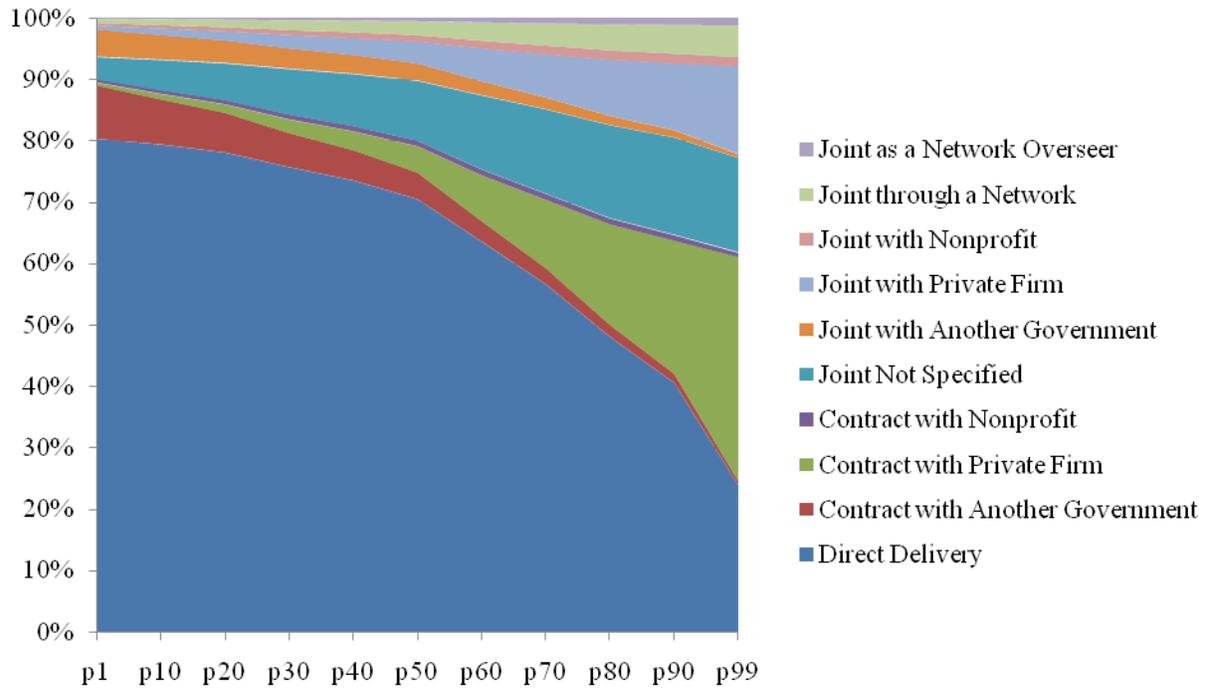


Figure 5: Predicted Probability of Service Delivery Mode by Market Competition



Taken together these results provide support for our basic propositions about the impact of values and service characteristics and markets on the use of joint service delivery modes. When citizen interest in a service increases, local governments increase their use of joint service delivery modes and direct service delivery relative to contracted service delivery. When services require moderately specialized investments, local governments increase their use of joint service delivery, but when services require significant specialized investments (which are likely high cost fixed investments), local governments reduce their partnership activity and expand their use of contracted service provision. Local governments notably increase their use of contracts with other governments and private firms most likely because these entities are able to offer scale, but require an explicit exchange relationship to do so. When services are moderately difficult to specify, local governments expand their use of joint arrangements and direct service delivery relative to contracted service delivery, and dramatically increase their use of joint arrangements when services are very difficult to specify. Finally, as service markets offer more alternative providers, local governments ramp up their partnership activity and contracted relationships relative to direct service delivery.

Focusing on Joint Service Delivery

In this section we focus our discussion on the results that shed light on the use of the five different joint service delivery modes. The key independent variables all influence the use of joint service modes, although the impact of each varies across modes. Figures 6-10 plot changes in the predicted probability of being in one of the five joint service delivery mode as the four key independent variables increase, holding the effects of all other variables constant at their means. Like the previous predicted probability figures, these figures are based on the multinomial logit results presented in Table 3. The Y axis reports the probability of being in the joint service delivery mode for that figure and the X-axis of each figure is scaled as percentiles from one to 99. While around one-fifth of services are delivered through joint arrangements, the use of any one of the joint modes is low relative to all ten modes. By unpacking joint delivery we are investigating the use of increasingly specialized delivery modes. Note that the Y-axis runs from 0 to .1 rather than 1. We reduce the range of the Y-axis to better display the impact of changes in the key independent variables on the use of each joint delivery mode. Below we examine the impact of all four independent variables on the predicted probability of the use of each joint service delivery mode, and provide illustrative examples of the types of services that are the most likely to be delivered through that mode. At the end of this section, we provide a more overarching discussion of the use of different joint service delivery modes.

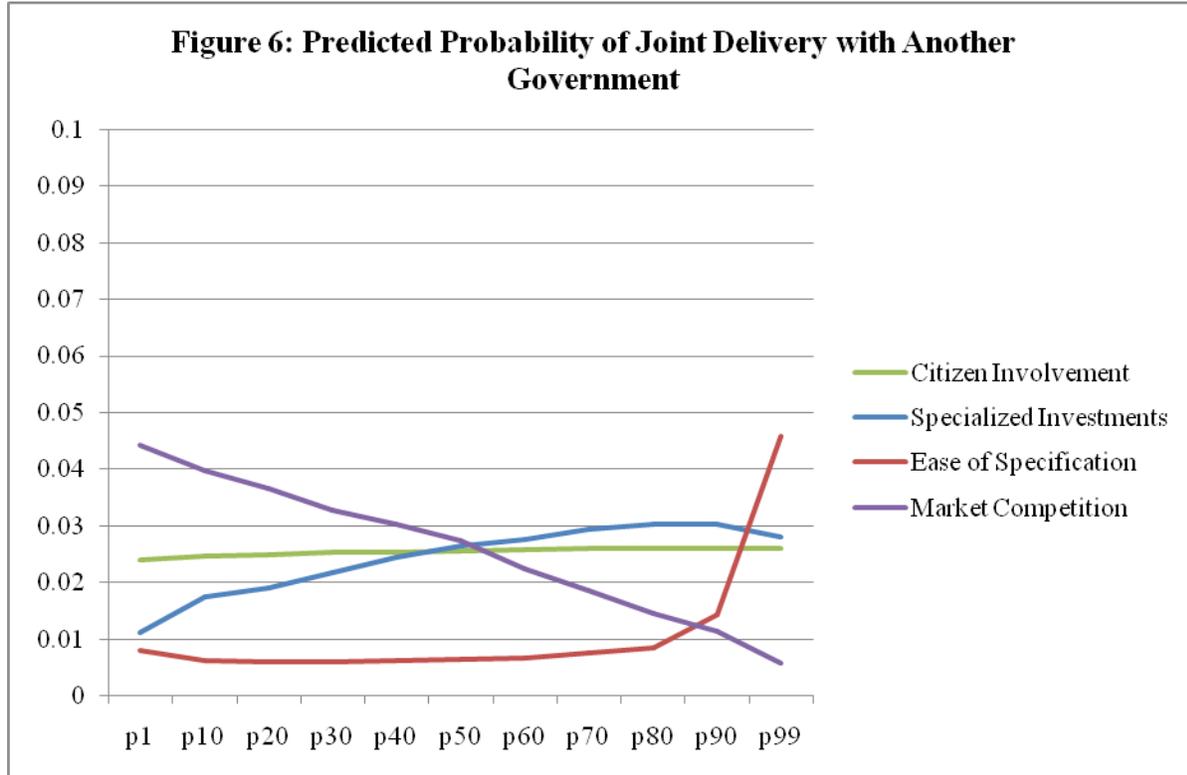


Figure 6 reports the changes in probability of joint service delivery with another government associated with changes in the variables *citizen interest*, *specialized investments*, *ease of specification*, and *market competition*. As Figure 6 shows, the probability of a local government delivering a service with another government increases as services' specialized investments increase, decreases as market competition increases, and remains unchanged with citizen involvement, holding constant the effects of all other variables at their means. More specifically, the probability of joint service delivery with another government increases from .017 at the 10th percentile of the variable *specialized investments* to .03 at the 90th percentile. The probability of joint service delivery with another government decreases from .04 at the 10th percentile of the variable *market competition* to .01 at the 90th percentile. The effect of the variable *ease of specification* on the probability of joint service delivery with another government changes across levels of the variable, holding constant the effects of other variables at their means. Joint service delivery with another government remains unchanged at around .006 moving from the 10th percentile of the variable *ease of specification* to the 70th percentile. The probability of joint service delivery with another government increases from .009 at the 80th percentile of the variable *ease of specification* to .05 at the 99th percentile.

The operation and maintenance of prisons and jails is a service that is among the most frequently delivered via joint service delivery with another government, with 8% of respondents to the two surveys indicating their government delivered the service via this mode. According to our transaction cost measures, this service ranks high on the variable *specialized investments* (4.04), in the middle range of *ease of specification* (3.21), moderately high in *citizen interest* (3.27), and very low in *market competition* (.84). These measures make the provision of prisons

and jails among the most likely for government to jointly deliver the service with another government.

Joint Delivery with a Private Firm

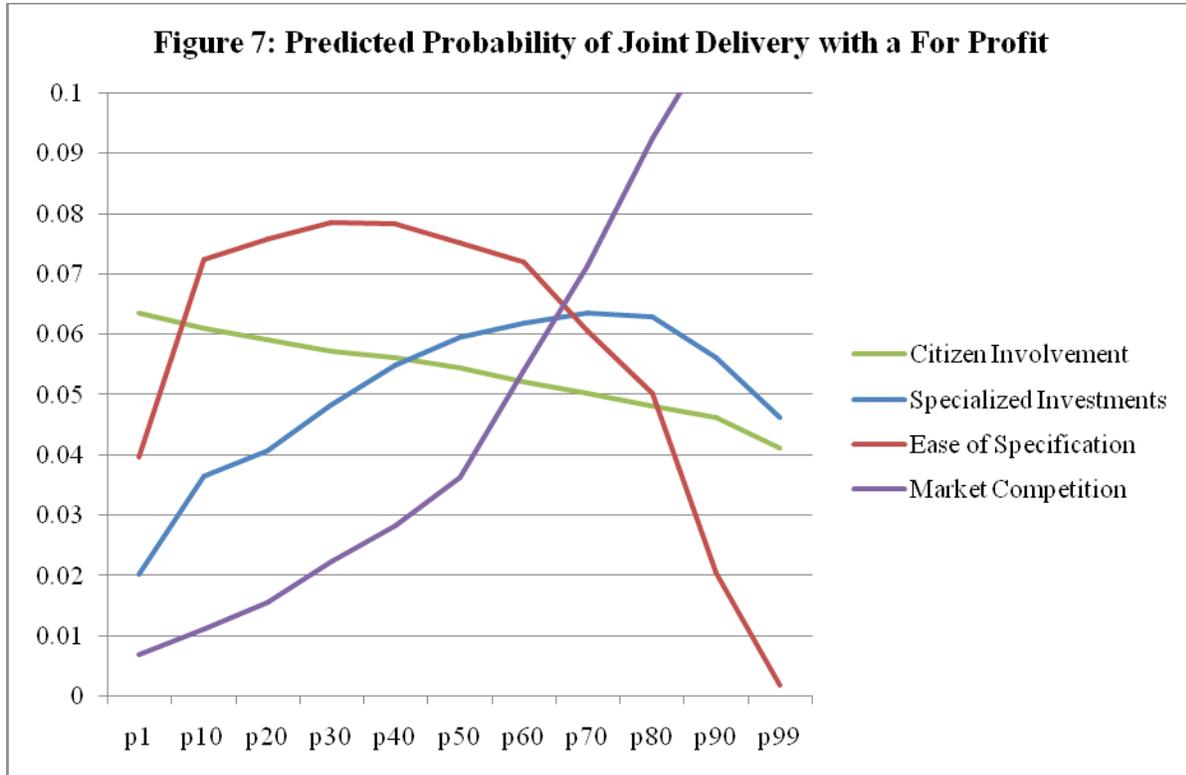


Figure 7 reports the changes in probability of joint service delivery with a for-profit firm associated with changes in the variables *citizen interest*, *specialized investments*, *ease of specification*, and *market competition*. As Figure 7 shows, the probability of a local government delivering a service with a for-profit firm increases as the variable *market competition* increases and declines as the variable *citizen interest* increases, holding constant the effects of all other variables at their means. More specifically, the probability of joint service delivery with a for-profit firm increases from .01 at the 10th percentile of the variable *market competition* to .11 at the 90th percentile. The probability of joint service delivery with a for-profit firm decreases from .06 at the 10th percentile to .05 at the 90th percentile as the variable *citizen interest* increases. The effects of the variables *specialized investments* and *ease of specification* on the probability of joint service delivery with a for-profit firm change across levels of the variables, holding constant the effects of other variables at their means. The probability of joint service delivery with a for-profit firm increases from .04 at the 10th percentile of the variable *specialized investments* to .06 at the 90th percentile. The probability of joint service delivery with a for-profit firm declines from .07 at the 10th percentile of the variable *ease of specification* to .02 at the 90th percentile.

The maintenance of heavy equipment is among the most frequently delivered services via joint delivery with a for-profit firm, with 22% of ICMA respondents indicating their government delivered the service via this mode. According to our transaction cost measures, this service

ranks moderately on the variable *specialized investments* (3.06), low in *ease of specification* (2.22), low in *citizen interest* (1.98), and moderate in *market competition* (2.08). This same general pattern is true for other services that government delivers via joint service delivery with a for-profit firm. This includes, for example, the maintenance of emergency vehicles at 21% (3.28, 2.11, 2.38, and 2.08 respectively). These measures make the provision of maintenance of heavy equipment and emergency vehicles among the most likely for government to jointly deliver with a for-profit firm.

Joint Delivery with a Nonprofit

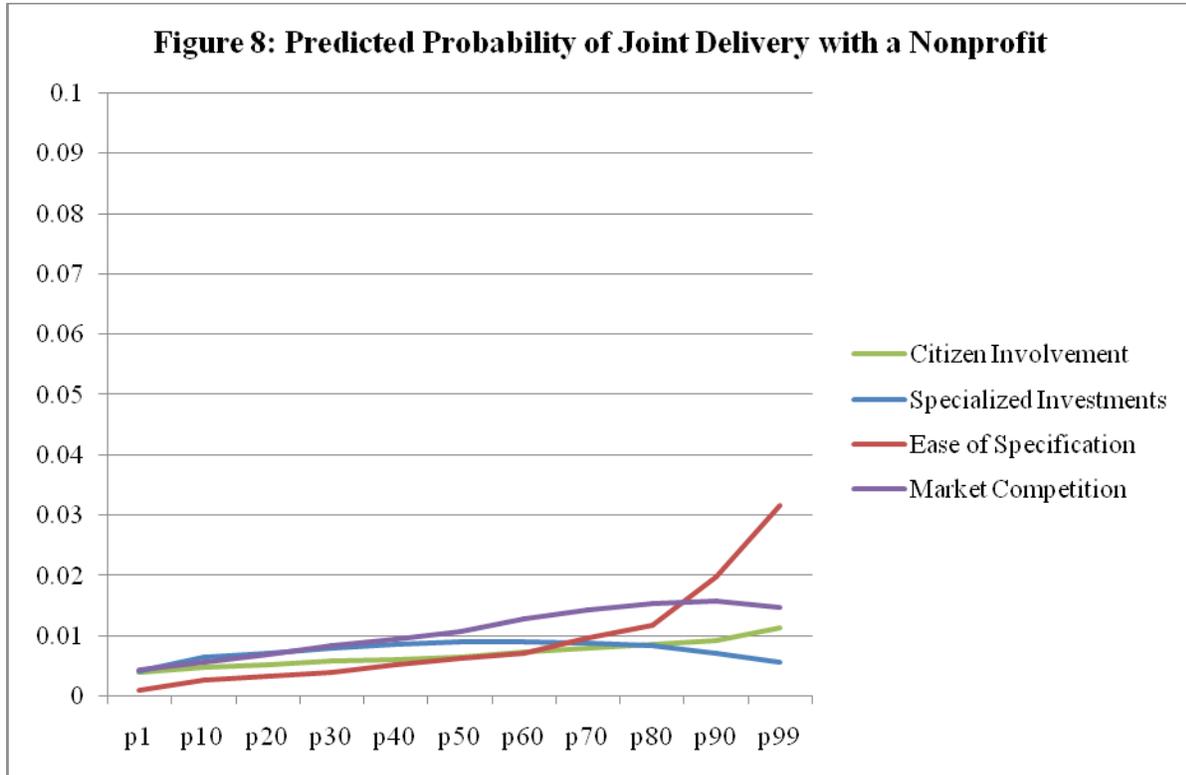


Figure 8 reports the changes in probability of joint service delivery with a nonprofit associated with changes in the variables *citizen interest*, *specialized investments*, *ease of specification*, and *market competition*. As Figure 8 shows, the probability of a local government delivering a service with a nonprofit remains relatively unchanged for the variable *specialized investments* from .07 at the 10th percentile to .07 at the 90th percentile. The probability of government delivering a service with a nonprofit increases from .005 at the 10th percentile where the variable *citizen interest* is low to .009 at the 90th percentile holding constant the effects of all other variables at their means. The probability of joint service delivery with a nonprofit increases from .006 at the 10th percentile of the variable *market competition* to .016 at the 90th percentile. The probability of joint service delivery with a nonprofit is .003 at the 10th percentile of the variable *ease of specification* and increases to .02 at the 90th percentile.

The operation of cultural and arts programs is a service that is among the most frequently delivered via joint service delivery with a nonprofit, with 12% of ICMA respondents indicating their government delivered the service via this mode. According to our transaction cost

measures, this service ranks moderately on the variable *specialized investments* (3.0), moderately difficult in *ease of specification* (3.26), moderate in *citizen interest* (2.84), and moderate in *market competition* (2.35). Governments deliver a number of other services jointly with a nonprofit that are higher on the need for specialized investments, where specification is more difficult, citizen interest is higher, and market competition is lower. For example, 8% of respondents report jointly delivering elderly programs with a nonprofit and 6% for drug/alcohol treatment programs. These measures make the provision of arts/culture and social/mental health services among the most likely for government to jointly deliver the service with a nonprofit.

Joint Delivery through a Network

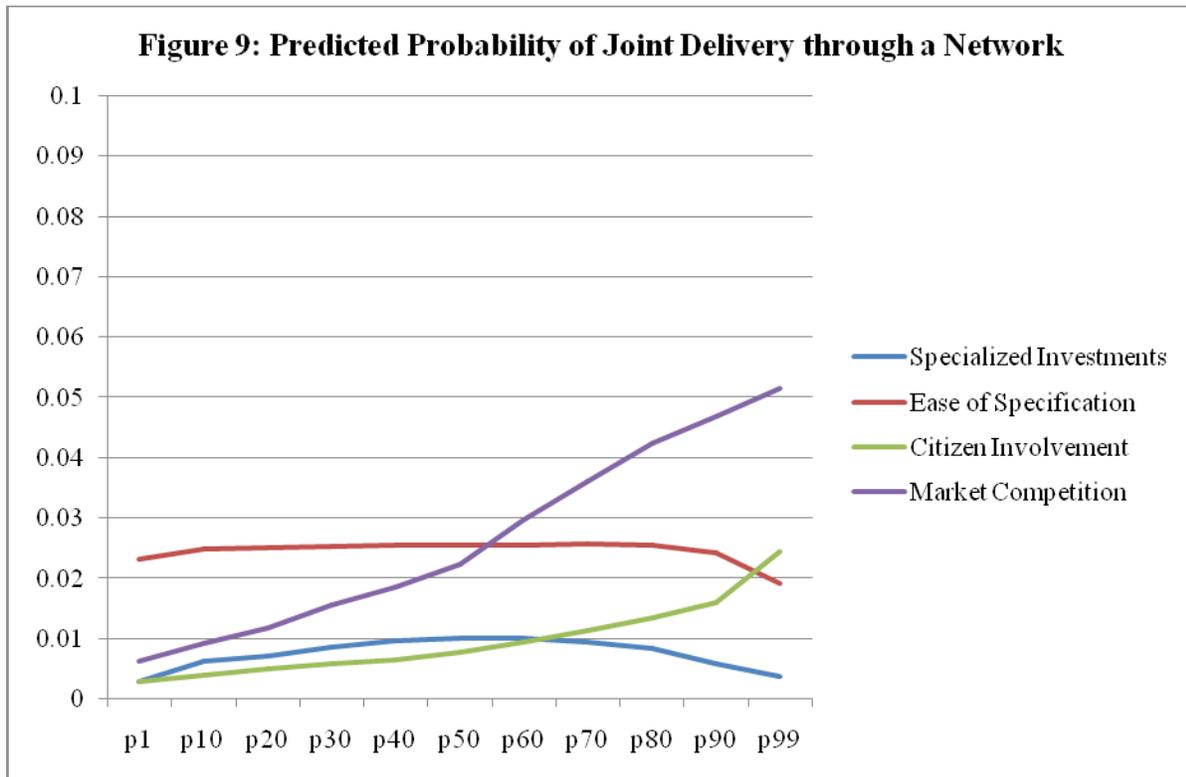


Figure 9 reports the changes in probability of joint service delivery with a network of other participants nonprofit associated with changes in the variables *citizen interest*, *specialized investments*, *ease of specification*, and *market competition*. As Figure 9 shows, the probability of a local government delivering a service with a network of other participants increases as the variable *market competition* increases and increases with increases in the variable *citizen interest*. The probability of joint service delivery with a network of other participants increases from .009 at the 10th percentile of the variable *market competition* to .05 at the 90th percentile. The probability of joint service delivery with a network of other participants is .004 at the 10th percentile for where the variable *citizen interest* is low and increases to .02 at the 90th percentile. The probability of joint service delivery with a network of other participants is .03 at the 10th percentile of the variable *ease of specification* and remains constant until declining to .02 at the 90th percentile holding constant the effects of all other variables at their means. The probability

of government delivering a service with a network of other participants is relatively constant for the variable *specialized investments* from .006 at the 10th percentile through the 90th percentile.

The operation of drug and alcohol treatment programs is a service that is among the most frequently delivered via joint service delivery with a network of other participants, with 8.4% of survey respondents indicating their government delivered the service via this mode. According to our transaction cost measures, this service ranks moderately high on the variable *specialized investments* (3.63) and *ease of specification* (4.12), moderate in *citizen interest* (2.81), and moderate in *market competition* (2.66). Governments do deliver a number of other services jointly with a network of other participants that are consistent with these transaction cost measures. For example, 8% of survey respondents report jointly delivering elderly programs with a network of other participants and 8% for the maintenance of recreational facilities. These measures make the provision of social and cultural services among the most likely for local governments to jointly deliver the service with a network of other participants.

Joint Delivery as a Network Overseer

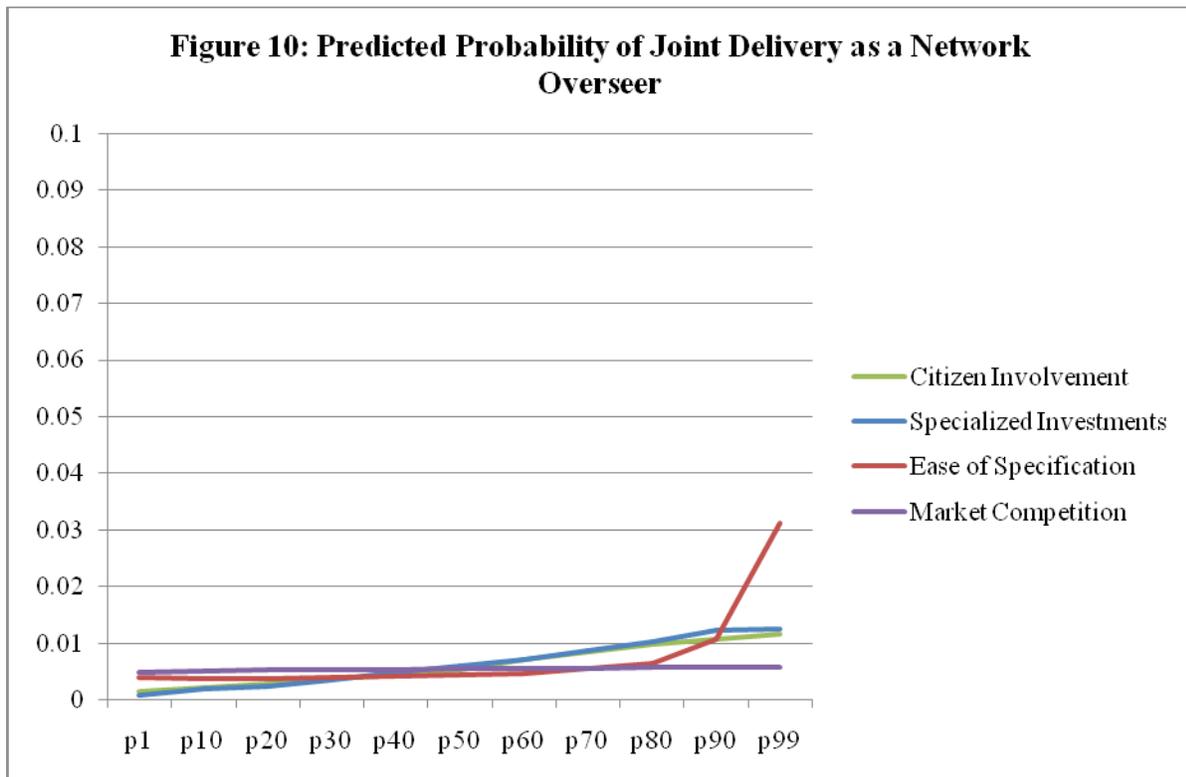


Figure 10 reports the changes in probability of joint service delivery when government serves as a network overseer in the delivery of services associated with changes in the variables *citizen interest*, *specialized investments*, *ease of specification*, and *market competition*. As Figure 10 shows, the probability of a local government delivering a service as a network overseer increases as the variable *specialized investments* increases from .002 at the 10th percentile to .012 at the 90th percentile. The probability of joint service delivery when government serves as a network overseer in the delivery of services is .004 at the 10th percentile of the variable *ease of specification* and increases to .01 at the 90th percentile holding constant the effects of all other

variables at their means. The probability of joint service delivery when government serves as a network overseer in the delivery of services is .002 at the 10th percentile for the variable *citizen interest* and increases to .01 at the 90th percentile. The probability of joint service delivery when government serves as a network overseer is relatively stable from the 10th to 99th percentiles of the variable *market competition* at .005.

The operation of daycare facilities is a service that is among the most frequently delivered via joint service delivery when government serves as a network overseer in the delivery of services, with 14.65% of survey respondents indicating their government delivered the service via this mode. According to our transaction cost measures, this service ranks moderately high on the variables *specialized investments* (3.14) and *ease of specification* (3.32), moderate in *citizen interest* (3.02), and moderate in *market competition* (3.3). Governments do deliver a number of other services jointly when it serves as a network overseer in the delivery of services that are consistent with these transaction cost measures. For example, among the survey respondents, 10.6% report the operation and management of hospitals, 9.22% for drug/alcohol treatment programs, and 9.22% for the operation of mental health programs using this delivery mode. These measures make the provision of social and public health services among the most likely for local government to jointly deliver when it serves as a network overseer in the delivery of services.

Summary Discussion

Of the bilateral joint service delivery modes, local governments are most likely to partner with private firms and are the least likely to partner with nonprofits. This does not mean, however, that private firms are the most desirable partners and that nonprofits are the least. On the contrary, in certain circumstances private firms are better suited as partners, while nonprofits are superior in others. When services are easy to specify, that is it's clear to both the local government and the joint partner what is required to collaborate to produce the service, and citizen interest in the service is low, the likelihood of a partnerships with a private firms increases. When services become difficult to specify – it becomes much more challenging for the local government and the joint partner to identify what is required to produce the service – the likelihood of a partnership with a private firm decreases, while the likelihood of a partnership with a nonprofit increases. Nonprofits might be preferable partners in these cases because as mission-driven organizations they may be willing to tolerate the uncertainty that comes with partnering for difficult to specify services and may pose lower risks to the local government that the partnership will falter on the other party's self-interest.

Private firms may also be more desirable partners in some cases because in general there are more of them across more service areas. For all the focus on the rise of nonprofits as service providers at the local level in the United States they remain concentrated in a few policy areas, namely health and human services and cultural and arts programs. Private firms, on the other hand, operate across the range of services offered by local governments, including the arenas where nonprofits are active. The preference of local governments for partnering with private firms is reflected in the increase in the probability of jointly delivering a service with a private firm as the number of alternative providers increases; most of these alternative providers are likely private firms rather than nonprofits or local governments.

Other governments appear to be the partners of last resort, a bulwark against the absence of other alternative partners. Like nonprofits, when services become difficult to specify, the likelihood of joint delivery with another government increases. They also appear to provide

advantages as partners in managing the challenges of specialized investments; as services require more specialized investments, the likelihood of joint service delivery with another government increases. This is not the case for private firms as partners; while the likelihood of joint delivery with a private firm initially increases as services require specialized investments, it decreases precipitously when services require a high level of specialized investments. Local governments may be safer partners when the risk of lock-in increases. They also appear to be preferable partners to private firms when the market thins. As the number of alternative providers increases, the likelihood of joint service delivery with a private firm increases, while the likelihood of partnering with another government decreases. On the other hand, the reverse is true: when the number of alternative providers decreases, the likelihood of partnership with a private firm decreases and the likelihood of a partnership with another government increases.

Among joint service delivery options, local governments appear to be active network participants. When there are multiple partners about (as indicated by an increase in the number of alternative suppliers), citizens are highly interested in the service, and there are moderate specification challenges, the likelihood of a local government jointly delivering a service as an active participant in a network increases. When services become very difficult to specify, the likelihood of a local government serving as an active participant in a network decreases, and the likelihood of serving as a network overseer increases. We interpret this to mean that when it becomes too challenging to specify all the different tasks required to provide a service, say for some complex health and human services, local governments take on the role of serving as a steward of the network.

Conclusion

Deciding how to deliver a service is a complicated undertaking in part because there are a wide range of options. Local governments in the United States are not constrained by a simple choice between government and the market. In addition to direct and contracted service delivery, governments can opt to provide services through joint arrangements with an array of bilateral and network partners. The research we present here demonstrates how community values and service characteristics and markets condition that choice. The five categories we've examined – joint delivery through a partnership with another government, private firm, or nonprofit, through a network of providers, or as network overseer – are themselves broad categories. There is clearly complexity within these categories that our measures fail to capture. Future research should look to bridge the gap between the rich case study literature on partnerships and networks and the growing empirical research on local service delivery practices.

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