

Managing Markets for Public Service: The Role of Mixed Public–Private Delivery of City Services

The privatization experience of U.S. municipalities shows declining use of complete contracts and a dramatic rise in mixed public–private delivery (joint contracting) of city services. The analysis here shows that city managers have recognized the need to move beyond a simple dichotomy between market delivery and public planning to an approach that balances concerns with efficiency, market management, and citizen satisfaction. The New Public Management stresses the importance of competition and efficiency, transaction costs economics emphasizes the challenges of contract management, and New Public Service assigns primary concern to citizen engagement. Nonetheless, city managers see the need to balance all three. The analysis shows the evolution of a middle position where city managers integrate markets with public delivery and give greater attention to citizen satisfaction in the service delivery process.

The major shift in privatization trends between 1997 and 2002 was the dramatic increase in mixed public–private service delivery among U.S. local governments (Warner and Hefetz 2004). Stein (1990) and Miranda and Lerner (1995) used the first 1982 International City/County Management Association (ICMA) survey on alternative local service delivery to explain the appearance of mixed delivery as one approach to contracting out. They called it “joint contracting,” but we prefer to use the term “mixed delivery” because it better reflects the continuing position of the public sector in the delivery process. Miranda and Lerner compared Niskanen’s (1971) notion of internal bureaucratic competition with Landau’s (1969) notion of redundancy and determined that the redundancy of mixed delivery, as benchmarking, could be cost-effective. Since that time, the research on privatization has elaborated a more sophisticated understanding of market failure in the delivery of public services (Alexander 2001; Zebur and McCurdy 1999). This literature recognizes the limits of quasi-markets (Lowery 1998), the importance of transaction costs (Brown and Potoski 2003; Sclar

2000), and the fundamental need for citizen engagement in the service delivery process (Hefetz and Warner 2007; deLeon and Denhardt 2000; Frug 1999).

Here, we analyze mixed delivery for the most recent decade, using the 1992, 1997 and 2002 ICMA surveys, and find support for each of these concerns. Local governments must structure the market for service delivery, especially in locales that lack competitive supply. Governments are substituting mixed public–private delivery for other forms of market management, such as competitive bidding. Increased attention to citizens recognizes that market delivery alone cannot ensure greater customer satisfaction. These results show that city managers have moved beyond the dichotomy of public versus private delivery and practice a middle position, integrating markets and planning to ensure efficiency, service quality, and citizen satisfaction.

Trends: Dramatic Growth in Mixed Delivery as Complete Contracts Decline

Local government use of alternative service delivery has been tracked by the ICMA in quinquennial surveys since 1982. As a result of consistency in survey design and broad coverage of services and alternative delivery mechanisms, this is the best source for tracking local government use of alternative service delivery options over time.¹ In our analysis, we use data from the 1992, 1997, and 2002 Survey of Alternative Service Delivery. The ICMA surveys are conducted every five years and cover all counties with populations greater than 25,000 and cities with populations over 10,000. In addition, a sample is drawn from one in eight cities and counties with populations 2,500–9,999 and from those with populations under 2,500. Roughly a third of all governments contacted respond (31 percent for 1992, 32 percent for 1997, and 24 percent for 2002). We use a repeated cross-section analysis and generalized estimation model to preserve sample size.

Local governments must structure the market for service delivery, especially in locales that lack competitive supply.

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The ICMA surveys measure direct public delivery and six alternative forms of service delivery (for-profit, nonprofit, intermunicipal cooperation, franchises, subsidies, and volunteers) for 64 services in seven broad areas: public works and transportation, public utilities, public safety, health and human services, parks and recreation, culture and art, and support functions. The surveys also measure government managers' responses to a range of managerial and structural factors believed to be motivators of or obstacles to alternative service delivery. We supplement these factors with socioeconomic and government expenditure data drawn from the City/County Data Book, based on the Census of Population and Housing for 1990 and 2000 and the Census of Government Finance files for 1992, 1997, and 2002.

We consider the decade since 1992, when Osborne and Gaebler's famous book *Reinventing Government* was first published and widely read by local government officials. This decade was marked by wide experimentation with alternative forms of service delivery. For each service, it is possible to differentiate responses into one of three exclusive categories: delivery with public employees entirely, delivery with a mix of public employees and outside contracts, or complete contracting out. Figure 1 tracks the changes in the composition of city service delivery in these three categories, averaged over all services and all governments from 1992 to 2002 (the latest available data). From 1992 to 1997, there was a 4 percentage point increase in local governments' use of contracting. In that year, 50 percent of government services were provided by contracts—either complete contracts (33 percent) or mixed contracts (17 percent). The ratio of complete to mixed contracts was almost 2:1 in 1997, but it flipped to 1:1.5 by 2002 as complete contracts dropped from 33 percent to 18 percent of service delivery and mixed contracts rose from 18 percent to 24 percent. Direct public delivery also rose from 50 percent to 59 percent by 2002. The number of services provided by government dropped during the decade (from an average of 43 to 35 of the 64 measured services), but by 2002, local government services were *more* likely to be provided entirely by public employees and less likely to be provided by contracts than in 1992.

Why did complete contracts decline so precipitously after 1997 and mixed contracting rise? Does this change reflect a managerial learning process of how to better address problems with competition, contract specification and monitoring, and citizen satisfaction, or does it reflect opposition to reform? This article explores the nature of that mixed delivery, which governments use it, and whether the motivators for mixing public and private delivery have shifted over time.

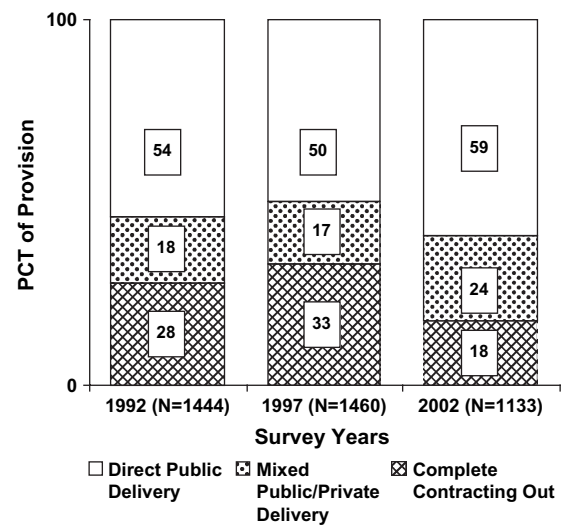


Figure 1 Composition of Local Government Service Delivery, 1992–2002 Notes: Percentage of provision averaged across all responding governments. Provision is the percentage of total number of services provided on average. Provision rates = 66 percent, 61 percent, and 53 percent for 1992, 1997, 2002, respectively

Source: International City/ County Management Association, Profile of Alternative Service Delivery Approaches, U.S. Municipalities, 1992, 1997, 2002. Author analysis.

Theoretical Review

This theoretical review covers three important and related themes in public management: (1) New Public Management, with its focus on competition and consumer responsiveness; (2) transaction cost economics, with its emphasis on firms, markets, and contract management; and (3) New Public Service, which gives greater attention to citizen engagement.

New Public Management champions the possibility of creating market-based service delivery systems for public services, which will be competitive and efficient. Governments are encouraged to act more like businesses and to promote competition and consumer responsiveness in service delivery (Dunleavy and Hood 1994; Hood 1991; Kettl 1993; Osborne and Gaebler 1992; Savas 1987). Government's role is to create competition internally and externally through contracting. Mixed contracting in this view stems from internal opposition, institutional constraints, or a lack of private market supply because of crowding out by government (Niskanen 1971; Osborne and Gaebler 1992; Savas 1987). Such governmental reform can be discouraged by opposition from labor and management (Hirsch and Osborne 2000; Siegel 1999) and practical legal, social, and economic obstacles (Caiden and Sundaram 2004; Thomas and Davies 2005).

Experienced government managers have learned that contracting poses additional transaction costs. In both public and private firms, the calculus for determining when to “make” internally and when to “buy” (out-source) production is a complex decision based on service and market characteristics and the need for internal knowledge and control (Nelson 1997). Transaction cost economics provides a valuable theoretical approach for determining whether internal production is more efficient than outsourcing to the market (Williamson 1999; Zebre and McCurdy 1999). Transaction costs in public organizations allow us to see the costs of information asymmetries, the need for fail-safe service delivery, and the benefits and costs of outsourcing or maintaining capacity in-house. Government plays an important market management role when contracting (Hefetz and Warner 2004), but transaction costs can be reduced if there are established legal and market institutions to ensure success (Webster and Lai 2003). In studies of local government contracting, Sclar (2000) has found that relational contracting is more important than competition because the complex nature of government services requires an ongoing relationship with the private provider. Recent research has explored the challenges of network management under contracting (Goldsmith and Eggers 2004; Milward and Provan 2000). Mixed delivery would help government maintain the internal capacity to be a player in the market and ensure fail-safe delivery. Mixed delivery could also reduce information asymmetries and the costs of monitoring by allowing governments to experience production costs directly.

Recent literature has challenged the citizen-as-consumer view of New Public Management as too narrow (deLeon and Denhardt 2000), arguing that citizen deliberation is at the core of public service delivery (Denhardt and Denhardt 2003; Mintrom 2003). Local officials have been experimenting with new forms of citizen engagement, recognizing that a sense of engagement is critical to effective service delivery and democracy (Crocker, Potapchuck, and Schechter 1998; Osborne and Plastrick 1997). Government plays a critical role as convener, securing citizen access and participation. Government capacity is crucial, both to manage markets and to support democratic debate (Nalbandian 2005; Sclar 2000). This view, captured in the academic literature as the New Public Service, argues that government is more than a business (Box 1999) and should serve citizens, not simply steer a market process (Denhardt and Denhardt 2000; Denhardt and Denhardt 2003). Mixed delivery would ensure continued public in-

volvement in the service delivery process—not just at the moment of letting the contract.

Each of these theoretical strands has relevance to our understanding of mixed service delivery. Our empirical analysis shows a process of managerial learning over time (Borins 2001; Rashman and Randor 2005; Rogers 1995), whereby local government experimentation with market delivery has moved beyond a primary concern with cost reduction and competition to increasing recognition of the importance of monitoring and citizen satisfaction. We can understand mixed delivery as part of an innovative and dynamic decision-making process in which city managers recognize the need to balance the benefits of markets, the costs of contracting, and the need for citizen engagement in service delivery (Hefetz and Warner 2007).

What Is Mixed Delivery?

Miranda and Lerner (1995) first noted the importance of mixed delivery when analyzing ICMA data from 1982. They argued that redundancy in delivery method could, in fact, be efficient as a form of benchmarking with the private sector and as a means to promote bureaucratic competition in-house. Miranda and Lerner’s regression analysis challenged the superiority of markets by showing a negative relationship between the percentage of mixed delivery and expenditures. They found no significant correlation between the percentage of complete contracts and expenditures. If mixed contracting enhances efficiency, then it is a false dichotomy to choose between markets and government, and it would be better to ask how both markets and governments might be used to improve performance (Alexander 1992; Zebre and McCurdy 1999). Mixed delivery as benchmarking represents a middle position that could avoid the all-or-nothing contracting based on public choice. For example,

Chautauqua County, New York, maintains both public and private nursing homes. The county maintains its public home to help benchmark costs and ensure quality—putting pressure on the private homes to keep up quality standards. They also use

their position in the market to ensure that the private homes take their fair share of Medicaid patients (Warner and Hefetz 2001).

When governments contract out, they must be sure the service delivery will not fail (Landau 1969). By maintaining public delivery capacity, even while using private delivery mechanisms, mixed contracting ensures redundancy in the system. Organizational redundancies are a means to avoid monopoly outcomes and ensure fail-safe delivery in the event of contract

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failure. This is especially important for services with high asset specificity. If government loses its capacity to deliver the service (e.g., by selling off its garbage trucks), then it cannot step in to ensure delivery when contracts fail. For example, Lubbock, Texas, divided the city into districts and bid out a few to private garbage haulers and maintained the rest in-house. This ensured competition, to keep prices down, and internal capacity to ensure fail-safe delivery in the event of contract failure (Ballard and Warner 2000).

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Theoretically, we would expect mixed delivery to be most common among for-profit contracts because problems with principal-agent conflicts are more likely between the profit focus of contractors and the mission focus of government. These principal-agent problems are less likely with nonprofit and intermunicipal contracts because these organizations have community missions similar to that of government. The ICMA data show that for services for which respondents specified the form of the contract, mixed delivery was almost three times more likely with for-profit contracts (average 40 percent) than with intermunicipal contracts (average 15 percent). Although the largest growth in mixed delivery occurred from 1997 to 2002, the dominance of mixed delivery with for-profit contracting did not change significantly. Bozeman (2002) has argued that private institutions will produce more public value if there is more government funding, communication, and control over mission. The rise in mixed delivery from complete contracting reflects attention to the positive potential of mixed delivery over the “either/or” dichotomy of public or private (Boyne 1998a; Mintrom 2003).

Mixed delivery as collaborative service delivery is on the rise. For example, work sharing is a new form of industrial organization that involves extensive collaboration between the public sector and private firms to reduce costs, expand market reach, and promote new technology. (See Hickey 2007 for a detailed discussion of this in the U.S. Postal Service and its private partners.) At the local level, in Ithaca, New York, the public transit system is a consortium of private providers (Swarthout and Tioga Transit, which bring in workers from surrounding rural counties), nonprofit providers (Gadabout, which provides elderly and disabled transit, and Cornell University, which provides on-campus service), and the public bus system (Tompkins County Area Transit, which provides urban transit). They share garage and maintenance facilities and collaborate in route planning. Together,

they create a seamless regional transit system that would not be possible with public dollars alone.

Where has the growth in mixed delivery come from? To understand changes over time, we paired the surveys and tracked service delivery across time periods. Roughly 40 percent of the sample was similar across any two surveys. We developed data strings for each individual case of service

delivery over the two time periods (1992–97 and 1997–2002) and compared how service delivery shifted among forms: entirely public, mixed public private, complete contracts (intermunicipal cooperation, for-profit, or nonprofit). On a service-case basis, we calculated the ratio of movements between each form of contracting and mixed delivery over time. Table 1 shows that in the 1992–97 period, movements to mixed delivery from complete contracting (for-profit, cooperation, and nonprofit) were roughly equal to the movements from mixed delivery to each of these forms, resulting in equal movements in both directions, or a 1:1 ratio. The growth in mixed delivery was from entirely public delivery, where services were twice as likely to move from public to mixed delivery as the other way, resulting in a 2:1 ratio. This was the period when governments were experimenting with contracting out and public delivery dropped.

For the 1997–2002 period, these ratios changed. The ratio of movements from entirely public delivery to mixed delivery dropped to 1:1. Growth in mixed delivery was primarily from cooperation (2:1), for-profit (1.6:1), and nonprofit (1.5:1) delivery. In this period, complete contracts dropped and mixed delivery rose. Interestingly, the highest ratio of movements in was from cooperation, where we would expect fewer principal-agent problems than with for-profit contracting, but the composition of mixed was still predominately with for-profit contracting. This shows that the rise in mixed delivery in 2002 was

Table 1 Sources of Growth in Mixed Delivery by Form

	1992–97	1997–2002
Public → Mixed : Mixed → Public	2: 1	1: 1
For-profit → Mixed : Mixed → For-profit	1: 1	1.6: 1
Cooperation → Mixed : Mixed → Cooperation	1: 1	2: 1
Nonprofit → Mixed : Mixed → Nonprofit	1: 1	1.5: 1

Note: Mixed cases of service delivery: 1992 = 3,265 cases, 1997 = 3,048 cases, 2002 = 3,439 cases.

Source: Paired surveys 1992–97, 1997–2002, case-wise comparison, International City/County Management Association, Profile of Alternative Service Delivery Approaches, Survey Data 1992, 1997, 2002. Author analysis.

from contracting and suggests mixed delivery may be a new form of market management in a networked governance system.

Modeling Mixed Delivery

Our question is not whether mixed delivery is more efficient, the question explored by Miranda and Lerner (1995) in their original paper on the 1982 ICMA data. Rather, our question addresses changes in motivators for mixed delivery over the decade 1992–2002. We hypothesize that the factors motivating governments to pursue mixed delivery have shifted over time. Our dependent variable is the number of services provided by mixed delivery over the total number of services provided. The model variables address concerns with scale, capacity, financial motivations, market competition, transaction costs, opposition, and citizen satisfaction. Descriptive statistics are provided in table 2.

Scale. Because of increased demand for publicly provided services in more urban places as a result of congestion and the increased complexity of service delivery management in more heterogeneous populations, we expect the level of mixed delivery to rise with population. Population is a proxy for the size of place. We hypothesize that mixed delivery will be higher among richer and larger governments because they have the scale to address a more complex management system.

Capacity. Places with more professional managers will have higher capacity to manage service delivery. We believe there has been a learning curve over the decade as managers have gained experience with contracting. We expect managers to be less likely to use mixed delivery in 1992, when governments were experimenting with contracting out, and more likely to use mixed delivery as they learned about the importance of market management. We include a dummy for places with the council-manager form of government to capture governments with more professional managers (Feiock and Kim 2000). We hypothesize that professional managers will be early innovators and recognize the need for mixed delivery earlier than the majority of governments.

We also expect mixed delivery to be higher in places that have higher income and lower poverty. Per capita income and percentage poverty measure the relative wealth of a place. Recent analysis has found that market and managerial characteristics of place are more important than service characteristics in determining the level of contracting. Places with professional management and monitoring systems are more likely to contract out (Hefetz and Warner 2004), as are richer, suburban places compared to rural places (Warner and Hefetz 2003; Warner 2006).

Financial motivations. The desire to decrease costs should motivate places to pursue a higher level of

Table 2 Model Variable Descriptive Statistics

Variable	Description	1992 Survey		1997 Survey		2002 Survey	
		Mean	STD	Mean	STD	Mean	STD
Mixed Provision	Number of services with mixed delivery	7.70	5.87	6.61	6.19	8.29	6.78
Mixed percentage	Number of services provided	43.37	9.98	39.07	10.55	35.23	10.58
Expenditures per capita	Percentage mixed delivery	18	14	17	16	23	18
Population	Total local expenditures per capita, deflated 1992 dollars ²	819.2	619.9	783.7	555.0	648.5	501.8
Per capita income	Average population size ¹	63,606	163,108	66,995	175,778	83,626	211,499
Ln (population)	Census per capita income ¹	15,154	6,331	14,883	6,096	22,497	7,232
Ln (per capita income)	Log natural of population ¹	10.22	1.17	10.25	1.17	10.42	1.19
Poverty percentage	Log natural of per capita income ¹	9.56	0.33	9.55	0.32	9.70	0.33
Council-manager	Percentage of persons below poverty level ¹	11.61	7.92	11.83	7.95	11.44	7.29
Decrease costs	Council-manager form of government (dummy, 1= yes)	0.64	0.48	0.62	0.49	0.56	0.50
Political climate	Attempt to decrease costs (dummy, 1= yes)	0.62	0.49	0.60	0.49	0.49	0.50
Competitive bidding	Emphasizing decreased role for government (dummy, 1= yes)	0.14	0.34	0.16	0.37	0.09	0.28
Lack of competition	Competitive bidding (dummy, 1= yes)	0.11	0.31	0.16	0.37	0.12	0.32
Monitoring index	Insufficient supply of private deliverers (dummy, 1= yes)	0.12	0.32	0.12	0.33	0.13	0.34
Opposition index	Monitoring index based on four factors	0.35	0.41	0.34	0.40	0.36	0.42
Citizen satisfaction index	Opposition based on four factors	0.18	0.27	0.18	0.26	0.16	0.27
N	Citizen satisfaction based on four factors	0.20	0.28	0.20	0.30	0.23	0.32
	Number of places	1444		1460		1133	

Sources: 1. Data from U.S. Bureau of the Census (1990, 2000), Population and Housing; 2. U.S. Bureau of the Census (1992, 1997, 2002), Census of Government Finances; all others, International City/County Management Association, Profile of Alternative Service Delivery Approaches, Survey Data 1992, 1997, 2002.

mixed delivery, especially if it is used to benchmark costs. We include a question from the ICMA survey, “Internal attempts to decrease costs of service delivery,” to measure this. We also use a measure of political climate, “Change in political climate emphasizing a decreased role for government.” Concerns with political climate were stronger in 1992 and 1997, as public enthusiasm for efficiency and reducing government was stronger. These questions were coded as dummy variables: 1 if checked, 0 otherwise.

The notion that private delivery is cheaper remains a primary philosophical driver for contracting (Eggers and O’Leary 1995; Savas 2000), although the empirical literature does not lend strong support (Bel and Warner, 2008; Boyne 1998b; Entwistle and Martin 2005; Warner and Hefetz 2002). Miranda and Lerner used expenditure per capita to measure this and found mixed delivery to be associated with lower expenditures. We include real expenditure per capita (in constant 1992 dollars), drawn from the U.S. Census of Governments finance files, for our analysis. We see that expenditure per capita dropped significantly in real terms over the decade. We see a decline in managers’ reports of attempts to decrease costs from 1997 to 2002. The limited success with private delivery as a cost-saving strategy might explain the reduction in managers’ rating of cost reduction as important. Also, mixed delivery may represent a more sophisticated form of cost control given declining real expenditures over the decade.

Market competition. Mixed delivery could also be a means to create competition in municipal service markets. Two variables, whether the government engaged in competitive bidding and whether the government faced problems with “inadequate supply of alternative deliverers,” were used to measure if supply and competition problems were present. We expect mixed delivery to be positively related to each of these.

Lowery (1998) and Sclar (2000) have pointed to the erosion of competition in public service delivery, more typically characterized by few sellers and one buyer. Osborne and Gaebler (1992) acknowledge that competition can be both external (via contracting) or internal (via competitive bidding). Competitive bidding was promoted in the 1990s as a strategy to force cost comparisons and enable public units to compete (Martin 1999).

External competition and internal labor management cooperation were heralded as ways to enhance public sector productivity (U.S. Department of Labor 1996), but these management forms have not proved to be stable over time (Walton, Cutcher-Gershenfeld, and McKersie

2000). In our data, we see that competitive bidding rose from 1992 to 1997 but fell again by 2002.

Managing transaction costs. New Public Management emphasizes the high internal costs of government bureaucracy and the lower costs of market-based competition. Critics of privatization point to the high transaction costs associated with contracting, particularly the costs of monitoring (Kavanagh and Parker 1999; Sclar 2000). Stein (1990), in his review of the 1982 ICMA data, argues that public services could be classified by their asset specificity and measurability, and those that are less asset specific and easier to measure would be more likely to be contracted out. Brown and Potoski (2003) rank the ICMA services on asset specificity and measurability, finding that monitoring was common when asset specificity was higher. Ironically, monitoring was less common when services were more difficult to measure. Low monitoring under conditions of difficult measurement is a recipe for failure (Poister and Streib 1999), and this may contribute to the dramatic rise in mixed delivery in the 2002 survey as a form of internal benchmarking in lieu of an adequate monitoring system for external contracts.

We developed a monitoring index based on four survey questions: whether managers reported that they evaluated costs, compliance with delivery standards specified in the contract, conducted field observations, and analyzed data and records.² The ICMA data show that less than half the governments monitored their contracts, and rates of monitoring did not rise over the decade. We expect a complementary relationship between monitoring and mixed provision.

Although theoretical support for the notion that service characteristics help explain differential levels of contracting has held firm since Stein’s original work, recent analysis shows even those services that are easy to measure (park landscaping, street repair, data processing, building maintenance, and fleet management) exhibit great variety in level and form of contracting as we look across governments (Hefetz and Warner 2004). Transaction cost economics is now elaborating a more sophisticated understanding that reaches beyond service characteristics to the organizational and institutional environment in mixed market–government systems.

Relational contracting and managing networks of collaboration are being given more emphasis than the role of competition in promoting innovation (Boyne 1998; Entwistle and Martin 2005; Goldsmith and Eggers 2004; Sclar 2000). Mixed delivery helps position government to realize the benefits of both worlds.

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Opposition and citizen satisfaction. Mixed contracting could be an adaptive response to internal opposition from department heads and line employees (Niskanen 1971; Osborne and Gaebler 1992; Savas 1987). We created an opposition index based on managers' answers to four questions regarding opposition from line employees, department heads, elected officials, and restrictive labor agreements. We expect that opposition will result in higher levels of mixed delivery in all time periods.

Government managers also must give attention to external citizen concerns with participation in the service delivery process. We created a citizen satisfaction index based on managers' answers to four questions: evaluated citizen satisfaction, conducted citizen surveys, kept the complaint mechanism in-house, and monitored citizen complaints. Recent theoretical debate on the limits of viewing citizens as customers has emphasized the need for managers to address both technical efficiency concerns as well as the political engagement process (Box et al. 2001; Feldman and Khademian 2001; Nalbandian 1999, 2005). Indeed, analysis of the 1992 and 1997 ICMA data shows that increased use of for profit contracting was *not* associated with increased attention to citizen voice (Warner and Hefetz 2002). Local government managers have recognized that market delivery alone is not sufficient to ensure citizen voice. Public service markets are quasi-markets in which the benefits of consumer sovereignty are not guaranteed (Lowery 1998). Problems with preference substitution and loss of deliberation limit the ability to reach a social optimum (Hipp and Warner 2008; Lowery 2000; Sager 2001; Starr 1987). To ensure citizen satisfaction, government must institute explicit mechanisms for citizen voice. This may explain why there was a rise in explicit attention to citizen satisfaction in 2002 after the rise in contracting in 1997.

Modeling Process and Results

To understand which places were using mixed delivery and whether the factors motivating mixed delivery have changed over time, we ran a probit model for each of three survey years.³ This provides a direct analysis of significant variables for each year. However, to make statistical comparisons over time and to determine which variables were significantly different from year to year, we also analyzed the data using a generalized estimating equation model using a binomial distribution with a probit link to account for the fact that each place was repeatedly measured over time.⁴ We found multicollinearity between poverty and income variables and between the monitoring and citizen satisfaction indices. Poverty and the monitoring index were dropped from the final analyses. The generalized estimation equation includes the same independent variables as the single year probit models, but it also includes

interaction effects by year. All main effects and interactions were tested, and only the significant year interactions are reported in the final model. The GENMOD procedure in SAS was used to run the generalized estimation analysis.

Most of our variables had the expected effect (see table 3). Scale matters and places with larger populations had higher levels of mixed delivery in each yearly model and in the combined model. Capacity also mattered, and mixed delivery was higher in places with higher income. We see a managerial learning process over the decade of experience. Management capacity, as measured by the existence of a council-manager form of government, was not significant except in the 1997 model. Recall this is the year when total contracting peaked while mixed delivery was flat. Experienced managers, who were early innovators, tested contracting out in 1992. These managers realized the importance of mixed delivery and, by 1997, showed higher levels of mixed delivery than other governments. This managerial learning regarding mixed delivery had caught on and diffused across urban and suburban municipalities by 2002, so that we no longer see a significantly higher level of mixed delivery among professional managers. In the combined model, the coefficient for council manager was not significant. Note that the dispersion was higher than the coefficient, reflecting the power of the repeats in 1992 and 2002 overwhelming the 1997 effect. This provides further evidence of the managerial learning, innovation-diffusion effect.

Managers who were concerned with decreasing costs showed higher levels of mixed delivery in all years and in the combined model. This suggests that Miranda and Lerner's notion of benchmarking is still part of what explains the use of mixed delivery. However, mixed delivery was not related to lower average per capita expenditures in any model. Recall that per capita costs dropped across the decade for all governments.

Mixed delivery also could be used to create competition in local service markets. We see that competitive bidding was only significant in the 1992 and 1997 models, in which it served as a substitute for mixed delivery. Use of competitive bidding declined from 1997 to 2002 as mixed delivery rose. It was not significant in the combined model. Mixed delivery is more an effort to maintain internal capacity vis-à-vis external providers than a result of competitive bidding by in-house crews. We see that inadequate supply of alternative private providers was important in both 1992 and 2002 and in the combined model. Competitive bidding creates competition in the contract-letting process. Mixed delivery maintains internal knowledge and capacity about service delivery over the life of the contract and thus ensures more fail-safe service delivery than competitive bidding.

Table 3 Regression Results Explaining Level of Mixed Delivery

Variable	Probit Models						GEM Model	
	Year 1992		Year 1997		Year 2002		Combined Model, Reference Year 1997	
	Coeff.	SE(Coeff.)	Coeff.	SE(Coeff.)	Coeff.	SE(Coeff.)	Coeff.	SE(Coeff.)
Ln (population)	0.064	0.006**	0.080	0.006**	0.067	0.006**	0.068	0.008**
Ln (per capita income)	0.245	0.018**	0.368	0.020**	0.200	0.023**	0.366	0.046**
Council-manager	-0.020	0.013	0.038	0.014**	0.025	0.015	0.015	0.020
Expenditures per capita	-0.016	0.009	0.003	0.011	0.017	0.014	-0.005	0.015
Decrease costs	0.077	0.015**	0.120	0.016**	0.059	0.016**	0.084	0.021**
Competitive bidding	0.037	0.019*	-0.049	0.018**	0.014	0.023	0.001	0.027
Lack of competition	0.091	0.019**	0.024	0.019	0.048	0.021*	0.062	0.026*
Opposition index	0.084	0.024**	0.208	0.024**	0.196	0.028**	0.162	0.034**
Political climate	0.051	0.018**	0.061	0.018**	0.002	0.025	0.038	0.026
Citizen satisfaction index	0.047	0.022*	0.178	0.022**	0.145	0.024**	0.199	0.051**
Intercept	-4.004	0.182**	-5.512	0.199**	-3.518	0.224**	-5.323	0.441**
Year 1992 main effect							1.401	0.550*
Year 2002 main effect							1.829	0.618**
Interaction terms:								
Year 92 * Ln (per capita income)							-0.138	0.058*
Year 02 * Ln (per capita income)							-0.167	0.064**
Year 92 * Citizen satisfaction index							-0.157	0.066*
Year 02 * Citizen satisfaction index							-0.069	0.072
N		1,414		1,418		1,039		3,871

** Significant at $p < .01$; * significant at $p < .05$.

Opposition and citizen satisfaction also affect the level of mixed delivery. Internal opposition from department heads, line workers, and elected officials was associated with higher levels of mixed delivery in all three years and in the combined model. By contrast, internal opposition had greater force than external political forces. Managers who faced a “political climate favoring a decreased role for government” actually had higher levels of mixed delivery in 1992 and 1997. This was in the early years of the reinventing government movement, when markets were heralded as superior. However, experienced managers were more likely to use mixed delivery rather than trust the market to ensure cost efficiency and fail-safe service. The political climate variable ceased to be significant in the 2002 model and was not significant in the combined model. This confirms our hypothesis that managers are driven more by pragmatic concerns with service cost and quality than politics.

Citizen satisfaction was significant in all years and in the combined model. The measures of government efforts to ensure citizen satisfaction were similar to the measures of contract monitoring. (Recall that monitoring was excluded because of collinearity with citizen satisfaction). Mixed delivery served as a complement to monitoring in all three model years. By remaining directly engaged in service delivery, governments can ensure that contractors maintain efficient processes, high quality, competitive costs, and attention to citizen satisfaction. Despite the consumer orientation of New Public Management, quasi-markets do not ensure consumer sovereignty. We expected citizen satisfaction to become more of a concern for managers in the latter part of the decade

as managers recognized that market processes alone do not ensure citizen voice, and indeed the value of the coefficient tripled over the decade.

The individual year models tell us about sample responses in each year, but to test for statistically significant differences in coefficients across years, we need a combined model. We used 1997 as our reference year and tested for an overall year main effect and interaction effects with year and each of the independent variables. Mixed delivery was higher in municipalities with more capacity (larger population, higher income), interest in decreasing costs, recognition of supply problems, and in places facing more opposition and giving more attention to citizen satisfaction. Political climate, competitive bidding, expenditure and council manager did not have a significant impact on mixed delivery. This was true in all years.

The main year interaction effects show the models are different from year to year. To determine how the models are different, we tested all independent variables with interaction effects by year. The only variables to show significant difference effects across the years were income, which was higher in 1997, and citizen satisfaction, which was lower in 1992. This confirms our story of managerial learning and diffusion. The income effect on mixed delivery was about 40 percent higher in 1997 than in 1992. This demonstrates the role of capacity (income) in determining early innovation. By 2002, mixed delivery was becoming widespread over a larger range of governments. Richer governments were still more likely to use mixed delivery, but the size of this effect dropped by more than a third. The diffusion process

was not just with respect to capacity, it also reflects increased attention to citizen satisfaction. The importance of citizen satisfaction on mixed delivery grew fourfold from 1992 to 1997 as innovative managers recognized the need to explicitly address citizen concerns in service delivery rather than simply leaving those to a market process. By 2002, attention to citizen satisfaction had diffused more widely across the sample.

There is a story here of a managerial learning process based on pragmatic practice as city managers sought to improve service delivery over the decade. Cost efficiency was a key driver of the reinventing government reforms as managers were exploring the benefits of market delivery. But in 1997, the year when total contracting out peaked, mixed delivery was flat as many governments faced a belief in the self-regulating ability of competitive markets to ensure efficient and fail-safe delivery. Richer governments with managers who recognized the need to give special attention to citizen satisfaction were more likely to maintain mixed delivery in this year.

By 2002, we see diffusion in the managerial learning process that recognizes market-based service delivery requires continued public delivery to create competition and to ensure cost-efficiency and citizen satisfaction in the service delivery process. City managers realize that market management and citizen satisfaction require government remain in the delivery process through mixed service delivery.

Conclusion

Mixed delivery has been a source of consternation for market advocates, who view such redundancy as potentially inefficient and unnecessary. A closer look at the structure and function of public service markets, however, shows that their quasi-market structure of one buyer and few sellers requires that government remain engaged as a market actor in order to ensure some form of competitive market formation (Lowery 1998). But even then, competition is a poor substitute for internal control to ensure efficient and fail-safe delivery. A closer look at the transaction costs of monitoring and the need to maintain internal knowledge and capacity in service delivery argues for a mixed position that could indeed be efficient (Miranda and Lerner 1995). Recent work on the private sector shows a similar shift in ideology and practice as managers recognize the structural risks of outsourcing in terms of loss of internal intelligence, control, and flexibility (Deloitte 2005).

But governments must manage an even broader set of objectives than private firms. Private firms are interested in profit, efficiency and, control. The public sector is interested in efficiency, but it is also expected to provide fail-safe delivery and ensure a higher level of public accountability and involvement. These features require that governments both steer and row in order to better manage market processes. While the early reinventing government movement exhorted government managers to “steer and not row”

The public sector is interested in efficiency, but it is also expected to provide fail-safe delivery and ensure a higher level of public accountability and involvement. These features require that governments both steer and row in order to better manage market processes.

(Osborne and Gaebler 1992), more recent literature, even from privatization proponents such as Savas (2000) argues for a partnership in which government cooperates with private providers for mutual gain. This network governance literature acknowledges the challenges of managing service delivery

across a network of public and private providers (Goldsmith and Eggers 2004; Salamon 2002), and mixed delivery shows a more dynamic management process whereby governments seek to promote innovation by focusing on partnerships and collaboration rather than a simple focus on competition (Boyne 1998a; Caiden and Sundaram 2004; Entwistle and Martin 2005; Warner and Bel 2008).

Reforms tend to beget new reforms. New Public Management gave emphasis to efficiency, market management, and consumer voice. But problems with quasi-market failure required governments maintain a mixed position. Transaction cost economics has elaborated a more sophisticated understanding of the challenges of contract management (Brown, Potoski, and Van Slyke 2006; Lamonthe, Lamonthe, and Feiock 2005; Nelson 1997; Sclar 2000). New Public Service argues that democratic participation and citizenship are at the core of local public service. Democratic processes are not efficient, but they are highly valued by citizens. While privatization at the state and national level in the United States continues to be primarily a political project, at the local level, city managers recognize the need to balance efficiency concerns with the challenges of market management and citizen satisfaction. Local government accountability is higher as citizens can actually see the impact of privatization on service quality and demand pragmatic behavior on the part of city managers (Warner and Hefetz 2004). The rise in mixed forms of delivery reflects a continuing process of innovation and change at the local government level that combines the benefits of market with the benefits of public delivery. Three types of agents are critical in this new market composition: governments, private providers, and citizens. Mixed delivery confirms that local government managers have moved beyond the

dichotomy of public or private and captured a middle ground—a position that is more likely to yield benefits both for efficiency and democracy.

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Notes

1. The U.S. Census of Governments also measures service delivery, but for fewer services and delivery alternatives than the ICMA surveys.
2. This index and the other indices used here were created by summing positive responses to component questions and dividing by the total number of questions in the index,

$$\frac{1}{Q} \sum_{i=1}^n f_i$$

where $f_i = 1$ if checked “yes” to question and 0 if not, and $i = 1, 2, \dots, Q$, questions.

3. The probit regression technique was used to transform the actual proportion of new contracting out and contracting back in from a 0–1 scale into a full scale variable following the standard normal distribution. Probit analysis uses the maximum likelihood technique to fit the best coefficients for the predictors (Norusis 1990).
4. Only about 40 percent of respondents were the same in any two survey years, and only 243 places answered the survey for all three years. The generalized estimation procedure takes into account the fact that all observations are not independent, as each place can have up to three measurements. It does so by using all information available without discarding observations that do not have all three repeats (Norton et al. 1996; Kuss 2002). Our combined data set had 3,871 observations (720 were places with three repeats, 1,493 places with two repeats, and 1,658 places with one repeat).

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