

# WATER PRIVATIZATION DOES NOT YIELD COST SAVINGS

By *Mildred E. Warner*

Proponents of privatization consistently argue that it saves costs due to competitive pressures private providers face to be more efficient. Over the last four decades there has been considerable experimentation with privatization. Results are inconsistent. Some cases find savings; others do not. To get beyond the “battle of the case studies” my colleagues and I conducted a meta-analysis of all published studies on water distribution (Bel et al 2010). A comprehensive scientific analysis shows the value of a careful review of theory and empirical evidence in making policy choices. Our analysis found no empirical support for cost savings.

“That private production has failed to deliver consistent and sustained cost savings in these two important sectors offers a useful insight to public managers. Cost savings crucially depend on the nature of public service markets, the characteristics of the service itself, the geographical dimension of the market in which the city is located, and the industrial structure of the sector. City managers should proceed with caution.” (Bel et al 2010).

What explains differences in study results? Is it due to specific management, location and context factors? Can differences in study results be explained by type of empirical analysis or bias among reviewers and publishers? Is it possible to draw some broader conclusions about whether privatization, in reality, actually leads to cost savings? What does local government experience with water privatization actually show?

This chapter presents comprehensive research confirming that privatization of water does not lead to cost savings. It also presents data showing privatization is the least common approach to water service delivery among US local governments. These empirical results reflect a careful reading of neoclassical economic theory which predicts water would be a poor candidate for privatization.

## **META-ANALYSIS OF STUDIES WORLDWIDE**

When there are mixed results across a range of studies, researchers can employ meta-analysis techniques to assess the quality of different study results and determine, given the weight of the empirical evidence, whether a given result holds. This is how it works. We analyzed all the published large scale quantitative studies of water collection from around the world published between 1960 and 2009 – seventeen in total (See Bel and Warner 2008 for a thorough description of each study). Eleven of these studies were from the US, three from England and Wales, and three from Eastern Europe, Asia and Africa. These were not case studies. They were large scale cross-sectional studies assessing differences in costs related to public or private production in water delivery across many communities (both urban and rural). Sample sizes were smallest in the UK studies (10-30 municipalities), but large in the US studies (86-319 municipalities per study) and the developing country studies (50-655 municipalities per study).

What can large scale, cross sectional comparisons of public and private water systems tell us about differences in costs? The majority of the studies (11) found *no difference in costs* between public and private production. This was true of all the studies conducted outside the US and the UK. Only three studies found private production to be less costly and these studies were all from the US during the 1970s and 1980s. The four studies finding public production to be less costly were also from the US.

To test further for what might explain the differences in study results, we conducted a meta-regression analysis controlling for sample size (larger studies are more robust), country (differentiating US and UK studies from others), and functional form of the regression analysis. These statistical results confirmed no difference in costs between public and private production of water service. Cost savings were more likely to be found in the earlier studies suggesting that cost savings, if any, erode over time. Furthermore, we found statistical evidence of publication bias in favor of cost savings (See Bel et al 2010).

These empirical results challenge the widespread claim that privatization should result in lower costs. Were these unexpected empirical results a result of problems with implementation on the ground? Or is it a more fundamental problem – a misreading of economic theory? We claim the later. Neoclassical economic theory argues for a careful review of market structure, incentives and actors to determine when private production might result in lower costs than public production. Privatization proponents failed to understand or follow basic economic theory. Expectations of costs savings under privatization are not supported by a careful reading of economic theory. Let me explain.

There are four major bodies of neoclassical economic theory that are relevant to this debate: public choice, property rights, transactions costs and industrial organization.

- Under public choice theory the expectations of cost savings derive primarily from competition, but competition is rarely present in public service markets, and almost never in water. In fact, water distribution is a natural monopoly and so introducing competition would *raise* costs.
- Property rights theory argues private owners will have incentives to innovate because they derive profits from such innovation in a manner that public agencies do not. However, the theory also predicts that private owners will reduce quality in order to enhance profits, unless careful regulatory oversight is ensured. Careful regulation is one explanation why cost savings are not found in water delivery – private owners find it difficult to shirk when public regulation is strong.
- Transactions costs theory argues there are transactions costs of contracting (information asymmetry, contract management and monitoring) that may be higher than the costs of internal delivery. This is especially true in long term contracts for asset specific services. Such services, of which water is one, are not good candidates for privatization.
- Finally industrial organization theory argues that one should look at the entire sector – its organization, actors and their incentives – before making a decision to privatize. If that had been done by privatization advocates; water privatization would not have been promoted.

Anti-privatization advocates often use political economic theory to explain privatization and the desire to transfer wealth and power to private partners. Such theory may explain a lot of what

drives privatization practice worldwide. However, even a conservative reading of standard neoclassical economic theory *does not* support privatization in the case of water service. Why did promoters of privatization choose to ignore the neoclassical economic theory in which they are so well trained? That is a subject others are better prepared to discuss. My purpose here is to clarify what the weight of empirical evidence shows and demonstrate how these results – of no cost savings under privatization – should have been theoretically predicted.

## US LOCAL GOVERNMENT EXPERIENCE

Next let me turn my attention to the practice of local governments in the United States – the region I know best. Local government managers are not economic theorists. They are pragmatic managers interested in choosing the most efficient and equitable approach to service delivery. The International City/County Management Association (ICMA) collects data on how US city managers deliver a range of public services and we can use this data to determine how common and effective privatization is. The US is a good place to explore this question because we arguably have the most favorable conditions for privatization of any nation. We have robust, competitive markets at the local level. We have city managers who believe in market delivery. We have user fees that make water contracts attractive and potentially profitable to private purveyors. And we have a fiscal crisis that causes city managers to look at the potential of private investment to upgrade water systems. What we do *not* have is a higher level of government or an international funder forcing city managers to choose privatization. That decision is left to local managers. Let’s see what they decide.

Over three quarters of US local governments surveyed by the ICMA provide water distribution entirely with public employees. Over two thirds of municipalities provide water treatment publicly and over half provide sewage collection and treatment publicly. These rates have remained relatively stable over time. For profit contracts only account for six to eight percent of service delivery in any of these three service areas. Governments that do not provide these water services directly with public employees are most likely to do so with inter-municipal cooperation (14 – 27 percent). These inter-governmental contracts permit the realization of economies of scale in service delivery while still keeping the service public. See Table 1 below.

Table 1. Delivery Alternatives for Water Services, US Local Governments, 2002-2007

Pure Public Delivery	Water Distribution	Water Treatment	Sewage Collection and Treatment
2002	76%	71%	61%
2007	72%	65%	58%
For Profit Contract			
2002	7%	6%	8%
2007	6%	6%	7%
Inter-Municipal Cooperation			
2002	14%	18%	26%
2007	16%	24%	27%

Author Analysis: ICMA Alternative Service Delivery Surveys 2002: N=1133, 2007: N=1474.

The overwhelming preference for public delivery of water services among US municipalities suggests local government managers understand something about water markets. Let's see how their practice illustrates a latent understanding of economic theory.

Recall, that public choice theory argues competition will be critical in determining any cost savings from privatization. What do we know about competition in US local government water markets? I conducted a survey of competition in local service markets with ICMA in 2007. Across all responding local governments, the average number of alternative suppliers was less than one for water distribution (0.79), water treatment (0.88) and sewage collection and treatment (0.67). (See Warner and Hefetz 2010). These results confirm that water service is a natural monopoly. As one city manager explained to me, "If there is no competition, when I privatize, I simply substitute a private monopoly for a public one. Monopolies extract monopoly rents. At least in the public monopoly I can use those rents to extend service."

Property rights theory notes private managers will have incentives for innovation, but this may come at the expense of service quality as they seek to enhance profit. ICMA added a question to its survey asking why local governments contract back-in previously privatized services. The answers are telling. Problems with service quality ranks first (61%). Lack of cost savings ranks second (52%). Improvements in public delivery rank third (34%). Political concerns rank last (17%). (See Warner and Hefetz 2009). Recall that water rates in the US are not high with respect to household income so this is not a service that raises strong political objections – unless there are problems with quality. City managers understand the critical importance of quality – best maintained through direct control.

Transactions cost theory tells us that services that are highly asset specific and difficult to manage and monitor as contracts, will remain public. Our 2007 survey with ICMA on competition also asked questions about asset specificity and contract management difficulty (See Warner and Hefetz 2010). Water distribution and treatment and sewage treatment were the top ranked of all 67 measured services on asset specificity (4.5 on a scale of 1 to 5). These three services ranked in the top fifteen most difficult to manage as contracts (3.5 on a scale of 1 to 5). City managers understand the inappropriateness of contracting out services with such high transactions costs.

Finally, industrial organization theory tells us to look at the structure of the sector, the actors and incentives in a comprehensive manner. The data presented above for the US show a sector dominated by monopoly providers in local markets and a service which is very asset specific and difficult to monitor. Over the 2002-2007 period, about nine percent of US managers experimented with a new contract for water service. But in the same period a similar percentage brought a previously contracted service back in house (reverse contract or remunicipalisation). Although US local government managers are willing to experiment with privatization, when it does not work, they bring the service back in house. Only ten percent of water distribution contracts were stable over the 2002-2007 period. Sewerage and water treatment contracts were more stable, but these are more likely to be inter-municipal cooperative agreements. When US city managers look for alternatives to direct public delivery in water service, they look to inter-municipal cooperation, not for profit privatization. Inter-municipal cooperation allows them to gain economies of scale, access to greater technical expertise and capital, while still keeping the service public.

Table 2. Contracting Rates, US Local Governments 2002-2007

SERVICE	Stable Public	Stable Contract	Reverse Contract	New Contract
Water Distribution	71.2%	9.7%	9.3%	9.7%
Water Treatment	66.8%	16.4%	7.9%	8.9%
Sewage Collection and Treatment	57.3%	25.2%	9.5%	8.0%

Source: 2002 and 2007 ICMA Alternative Service Delivery Survey, Author analysis.  
 N=459 US Cities and Counties, respondents to both surveys.

The empirical lessons from thousands of local government managers tell a clear and compelling story. Water service is a poor candidate for privatization. There are better alternatives. With the weight of empirical and theoretical evidence now firmly showing that privatization is not an effective option in water service delivery, maybe international funders will turn their attention to the critically important question of alternatives that really work. The other chapters in this book explore those alternatives.

## References

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