Public or Private Water Management? Cutting the Gordian Knot

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''Public versus private'' is not the bright line that separates efficient from inefficient management. Like Alexander the Great, who ''untied'' the Gordian Knot with one slice from a sharp knife, we believe that the real solution to water problems worldwide has been overshadowed by the ideological debate between advocates and opponents of privatization.

The questions we need to answer are these: How can we provide safe, affordable water services for all people? How can we better involve the community in decisions about water resources and water systems? How can contracts be designed that effectively lay out the responsibilities of all parties? How can we ensure that the economic incentives for private or public entities are aligned with our social goals?

In the end, it doesn't matter to a resident of a settlement in Bombay or a suburb of Chicago whether a public or private company owns or manages the facilities that deliver clean and affordable water to their taps. What does matter is that people—wealthy and poor—have the water they need, that the environment gets a fair share, that profit levels and prices are reasonable, and that ambient water quality is protected for future generations.

"Private versus Public" Debate

Public water companies provide most water and wastewater services worldwide, nearly 95% by some estimates. But the number of people served by private companies has grown from 51 million people in 1990 to nearly 300 million in 2002. Six water companies alone expanded from 12 countries in 1990 to over 56 countries by 2002 (CPI 2003). Signed concession contracts worldwide amounted to over $27 billion, based on data for late 1998 in *Public Works Financing*. At that time, over $38 billion of concession contracts were ''in the pipeline'' (Westerhoff 2000). The data cover only long-term concessions; they do not cover short-term operation and maintenance contracts that are common in the United States. The signed contracts represented 147 projects, and the contracts under discussion at that time represented 192 additional projects.

Private involvement in water supply has a long history. In some places, including the U.S., private ownership and provision of water was the norm historically. In the latter half of the 19th century, private water systems in the U.S. began to be municipalized because private operators were not equitably providing access and service to all citizens or making necessary infrastructure investments. In the southern U.S. at the turn of the century, typhoid rates among African Americans, which were twice as high as for white Americans, dropped significantly after water systems became public (Troesken 2001). On the other hand, recent water privatizations may have improved public health in some places. Galiani et al. (2002) report that infant mortality declined 5–7% in parts of Argentina where water services were privatized.

Privatization has been proposed as the solution to every woe facing water utilities, including inadequate service coverage (over 1 billion people without safe drinking water and over 2.5 billion without safe sanitation), corruption, inefficiency, and large projected capital needs. The extent to which privatization will, in practice, improve water management is as yet unclear. It is clear, however, that private companies and investors are not the panacea some advocates of privatization claimed they would be, just five years ago. Prematurely terminated contracts in Manilla, the Phillipines, and Atlanta, after only 5 years and 3 years of operation under long-term concessions, demonstrate how hard it is to forge successful public-private partnerships, even in a regulated market economy such as the U.S. International currency risk and responsibility for an adverse change in currency valuation was at the heart of the Manila failure, while service quality problems seem to have been critical in Atlanta.

Investment and Infrastructure

Water infrastructure is very capital-intensive (NRC 2002). The ''Framework for Action'' of the Second World Water Forum estimated that water sector investments needed to increase from around $70 billion per year (2000) to about $180 billion a year. The Framework suggested that private funding would provide 95% of this increase (GWP 2000).

But this perspective is increasingly seen as unrealistic. In response to the Framework's suggestion, a senior water official at SUEZ, one of the largest water suppliers in the world, stated, ''... we question whether this level of private investment is a realistic solution to underinvestment in water systems'' (Moss et al. 2003). An official from Thames Water stated at the 3rd World Water Forum in Kyoto, Japan (March 2003) that industry business plan growth targets multiplied many times over cannot approach these levels of additional investment. Furthermore, private financing is often more, not less, expensive. In the U.S., for example, ''the tax exempt status of municipal debt...creates roughly a 20 to 40 percent interest cost gap'' (NRC 2002).

Finally, infrastructure and capital needs may be significantly less than projected. Centralized, capital-intensive infrastructure has provided water and wastewater services throughout history, but increasing scarcity is compelling water planners to consider other options. A ''soft path'' for water resources is emerging (Wolff and Gleick 2002). It continues to use ''hard'' infrastructure like dams and pipelines, but cost-effectively increases the services delivered by traditional infrastructure through water use efficiency, reuse, and decentralized infrastructure (e.g., improved appliances in millions of homes and businesses). The opportunities

of the soft path transcend the debate over privatization but are often neglected when private versus public is the focus of discussion.

Management Quality and Skills

Better management and increased investment are interrelated. Ineffective management drives up the cost of providing services and will make it harder to make a case for obtaining needed investment. Private investors, politicians, and customers and taxpayers are reluctant to invest when they distrust management to deliver what they are paying for. This perverse value cycle—in which poor service quality undermines investment that in turn undermines service quality—is a significant problem in less developed countries (Moss et al. 2003).

Neither the public nor private sector has a monopoly on good management. Many public systems are reasonably well managed. Often-cited examples include various U.S. Municipal Utility Districts, the Dutch Water Companies, Australian State Water Authorities, and the Singapore Water Board. Some private water utilities are also reasonably well managed, including utilities in France and the United Kingdom and at least a few private utilities in Latin America and Asia. Proponents of privatization often cite La Paz, Boliva; Macao, China; and many cities in Argentina as successes.

Whether public or private, the need for good management is critical and the demands on management are growing. Public participation in water decision-making is increasingly critical for success, both initially and over time. Managing input so that customers and citizens feel their concerns are being addressed, and so that technical staff can get their jobs done, is difficult whether the water company is private or public.

Finally, the skills required to directly deliver water services are different than those required to manage a contractor who delivers water services. As NRC (2002) points out, the role of the public sector is just as important if the utility operations are handed over to the private sector. For privatization to work, the public sector needs to provide effective oversight, monitoring, and regulation of the private operator. For example, the regulatory apparatus in the United Kingdom (U.K.) after privatization was underfunded and understaffed. Profit levels were excessively high and service was inadequate, at first. Effective regulatory systems, including those that regulate other public entities, require adequately trained and paid staff in economic, environmental, and water quality areas.

Market and Nonmarket Competition

Public economists have long known that water and wastewater systems are natural monopolies that cannot compete in the usual way. Customers served by enormously capital-intensive networks of underground pipes connected to facilities with large economies of scale (e.g., dams and reservoirs, water and wastewater treatment plants, etc.) cannot stop buying from an inefficient or low-quality service provider. Natural monopolies cannot compete for customers in the usual way because customers cannot usually switch suppliers.

Nonetheless, competition is possible. For example, the U.K. is currently testing a system of limited competition where large-volume water customers can bulk-purchase water from a variety of wholesale suppliers who sell their water through regulated monopoly distribution companies. Even if successful, this system is only partially competitive in that customers cannot individually specify the quality of water they purchase—they are limited to the quality of water delivered to their ''neighborhood'' in the common carrier pipelines.

More generally, companies can compete ''for the market'' rather than ''in the market.'' Some people claim that profits can be kept reasonable by forcing companies to competitively bid for concessions or service contracts. Periodic rebidding or the threat of rebidding can help to keep companies on their toes. Reputation developed in one service area will affect a company's prospects of obtaining contracts in other service areas, and so forth. This model is fundamentally sound in theory, but may fail in practice.

One important practical failure is when private competitors underbid in order to win a contract, and the contract is so poorly written that they can force increases in their compensation later. Another very common practical failure is to grant long-term contracts that preclude competition for many decades, based on the belief this is needed to induce long-term investments. But adequate inducement to invest can be created in 5–10 year contracts that make fair ''balloon'' payoffs upon transfer or renewal.

Competition for the market is not limited to private companies. Public entities that don't ''reengineer'' themselves when inefficiency exists are candidates for privatization. And failure to reengineer also exposes public managers to replacement by other public managers, an example of nonmarket competition. One successful reengineering, by Phoenix Water Services (PWS), saved an estimated $10 million between 1995 and 2000. In addition, the hiring of 72 additional staff was avoided by improvements in operational efficiency. According to PWS Director Michael Gritzuk, ''Privatization doesn't even begin to address the scope of what a re-engineering project can address.''

Similarly, Australian public water utilities were reconstituted in 1995 as state-owned companies. Companies pay ''dividends'' to their state governments in lieu of corporate income taxes, creating a financial incentive for politicians to support economically efficient management. The companies are also periodically audited on a variety of performance indicators, and the comparative results are published. Customers can see if their water quality or reliability of delivery or water prices are better or worse than industry benchmarks. They can and do exert political pressure if performance is poor. One tangible example of success due to this type of nonmarket competition is that Yarra Valley Water, one of three retailers in the Melbourne area, reduced unaccounted-for water (losses in distribution pipes) from 27% to 13% between 1995 and 2002 (personal communication, Tony Kelly, Managing Director, Yarra Valley Water, July 2003). Advocates of privatization mistakenly claim that competition between private companies ''for'' or ''in'' the market are the only ways to obtain these benefits.

Beyond the "Public or Private" Debate

We believe that real solutions involve creating ''system conditions'' under which efficient and socially responsible management is rewarded and inefficient and socially irresponsible management is punished. For example, Gleick et al. (2002) present 13 principles for privatization that combine social and economic objectives for water management. The principles include meeting basic human needs, meeting ecosystem needs, providing subsidies when necessary to overcome poverty, setting water rates in general at fair and reasonable levels, linking proposed rate increases

to agreed-upon improvements in service, using subsidies only when economically and socially sound, and requiring water companies to demonstrate that new water supply projects are less expensive than projects that improve water use efficiency. They also include standards for government regulation and oversight: retaining public ownership and control of water sources, public monitoring of water quality, high-quality contracts, clear dispute resolution procedures, independent third-party technical review during contract negotiations, and transparency and openness during contract negotiations. Expanding on the principles, Wolff (forthcoming technical note from the World Bank) describes emerging techniques for economic regulation of public and private utilities that create incentives for protection and conservation of water resources.

The principles and standards collectively imply that long-term solutions cannot trade off satisfaction of basic human and environmental needs against economic efficiency. Both are required; both are achievable. Palaniappan et al. (2003) demonstrate that every principle and standard has been successful in practice somewhere in the world.

Concluding Remarks

These experiences and documents show that the Gordian Knot of ideological debate about privatization can be cut rather than undone. We do not need to decide if private or public ''players'' are superior, in the abstract. We need to implement and enforce the ''rules of the game'' under which private or public utilities or operators are efficient and responsive to social needs and desires. As the Dialogue on Effective Water Governance—a joint project of the United Nations Development Program (UNDP), the Global Water Partnership (GWP), and the International Council for Local Environmental Initiatives (ICLEI)—has said: ''The water crisis is mainly a crisis of governance'' (GWP 2002). This crisis can be solved only by institutional reform. Water successes around the world, public and private, are models of institutional arrangements that work, from which we can and must learn.

Unfortunately, the greatest current problems in the water sector exist where government is weak and unable to either provide adequate services directly or to regulate private companies. Creating or reforming institutions in places that have failed for decades or much longer is a significant challenge. We believe it is ''the'' challenge that must be overcome if water is to fulfill its promise as a ''weapon of mass salvation'' (Sachs 2002).

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