PRIVATIZATION, MONOPOLY, AND STRUCTURED COMPETITION IN THE WATER INDUSTRY: IS THERE A ROLE FOR REGULATION?

Janice A. Beecher, Ph.D.
Beecher Policy Research, Inc.

ABSTRACT

This paper provides an overview of privatization and competition in the water industry from a public policy vantage point. In particular, it contrasts the contract operations model with the private ownership with regulation model. Advantages and disadvantages of each model are summarized. The monopolistic nature of the water industry and the potential need for structured competition and economic regulation are discussed.

STRUCTURE AND COMPETITION

The U.S. water industry is dominated by public ownership. Publicly owned systems (municipalities, counties, districts, and authorities) account for about 43 percent of all community water systems, but about 85 percent of population served, water sales, and revenues from sales (U.S. Environmental Protection Agency, 1997). Many of the nation's numerous small utilities are privately owned, but several large investor-owned utilities have a presence in the industry's composition. The state public utility commissions regulate only about 20 percent of all community water systems (Beecher, 1995).

The water industry has and will continue to display many characteristics of monopoly. Nonetheless, the water industry in the 1990s has felt the forces of competition. Water utilities are competing with themselves and with others in a number of venues, including: extending service to unserved or underserved areas; engaging in acquisitions and mergers (voluntary); bidding for operations contracts; bypassing the utility (including self-supply); purchasing water on wholesale markets; trading water rights (alternative uses); maintaining a service and quality image (bottled water); promoting public versus private ownership; contesting markets, ownership, takeovers; and participating in convergence acquisitions.

The expanding number of competitors in the water industry includes investor-owned water utilities, municipal water utilities, nonutility contract operations firms, energy holding companies, and foreign multinational corporations. Some of the newer entrants to the competition have strong global presence and resources that far outweigh those of even the largest U.S. water utilities.

An intense and meaningful form of competition (a better term might be "contestability") is the competition between public and private ownership. As pressure on the water industry rises, alternative ownership forms – both public and private – are explored. In some cases, the "grass looks greener" on the other side of the fence. A city that owns its system explores privatization; a city served by an investor-owned utility considers its rights of eminent domain. In practice, good and bad performers can be found on both sides of the privatization fence. As emphasized by Charles Wolf, the choice between public and private is a choice between imperfect alternatives.[1]

Competition and privatization are linked but they are not identical, despite the frequent commingling of the concepts. Privatization in itself does not equal or ensure competition or provide protection against monopoly abuse.

PRIVATIZATION RATIONALES

The privatization debate certainly has a basis in philosophical discourse. E.S. Savas (1987) describes four sources of support for privatization: ideological, populist, pragmatic, and commercial. Ideologues want less government, populists want a better society, pragmatists want effective solutions, and commercial interests want more business.

This typology can be used to describe how the U.S. privatization movement is affecting the water industry. The populist sentiment seems to play a less important role than ideology, which also seems to be only moderately relevant (despite the abundant rhetoric surrounding privatization). Pragmatism – the need to solve problems – seems to be a very important factor in privatization. Even more important is the apparent role of commercialism. Utilities, contractors, the contract advisors, think tanks, and members of the trade press

have played a very active part in promoting privatization, often to the exclusion of competing perspectives. Privatization is considered good for business (including ancillary businesses), so the commercial interest in privatization should come as no surprise.

A central philosophical issue for government policymakers is whether or not the ownership and/or operation of water systems are "core" government functions. Ideas about government's core functions are value-based and very personal. Most people agree that judicial and policing functions are core functions. Regulation (including the economic, environmental, and social varieties) also is usually considered core. But opinions differ about road repairs, refuse collection, and schools. And of water service – is it "public works" or a utility business?

Privatization advocates tend to see only a few governmental functions as core; many of the functions performed by government are ripe for private involvement. Skeptics see more functions as core and worry about the delegation of power and authority and the potential loss of accountability, as well as the additional burdens that privatization actually places on government (Kettl, 1993).

Several pragmatic reasons for privatization were identified in a recent study (Beecher, et al., 1995). Based on thirty nonrandom case studies, the following arguments were cited: funding needed for capital improvements (17 mentions); environmental compliance issues (17); source-of-supply or capacity limitations (11); wanted expert water management (7); potential to lower construction costs (6); potential to lower operating costs (5); opportunity costs associated with municipal funding (5); potential to increase system efficiency (3); local labor issues or disputes (2); wanted out of the water/wastewater business (2); and potential to increase cash flows (2).

Other studies have provided insight as to why some cities have rejected privatization (Johnson and Heilman, 1987). These include economics (high costs and rates, minimal cost savings, and disagreement over terms); politics (loss of municipal control over facilities, employees, and rates); legal issues (unwillingness of the privatizer to guarantee a proposal due to tax law uncertainties); and other reasons (including objections to buy-back provisions, risk of default, and difficulties with contractors).

Although it does not appear to have been studied systematically, some cities also are choosing "municipalization." The key reasons seem to be: concerns about high water rates and desire to control rates and rate design, desire for control over local water resources, interest in achieving tax and financing advantages, interest in reducing or "keeping" the profit to spend elsewhere, and – somewhat amazingly – an interest in shifting from ownership to contract model of privatization.

While there exist many valid reasons for privatization, it may be worth calling attention to a few invalid reasons. These reasons may explain why privatization often is viewed as a threat. First, privatization should not be implemented out of fear, intimidation, corruption, or a false sense of urgency ("now or never"). Second, cities should avoid cashing in for a one-time monetary windfall without vision or purpose about the long-term interest of the community. Finally, privatization should be viewed as a means to achieving other goals, not as an end unto itself. In other words, pure rhetoric or ideology does not seem to provide a solid foundation for the privatization decision.

PRIVATIZATION AND PERFORMANCE

Several hypotheses favoring privatization have been advanced in the literature, although they are expressed more informally than formally. Most can be supported through anecdotal evidence, but few have been subjected to rigorous empirical examination.

The prevailing hypotheses suggest that, compared to privately managed utilities, publicly managed utilities: experience more construction-cost overruns; postpone necessary improvements; overcapitalize (even more than private utilities); overutilize debt; incur higher capital and operating costs; are less efficient in procurement and scheduling; innovate slowly if at all; provide longer tenure to managers; have greater debt capacity and access to capital; are more risky and realize lower returns; subsidize or receive subsidies from other local government operations; set rates further from costs (and marginal costs); and favor voters over nonvoter, businesses over individual consumers, and organized groups over unorganized groups (Beecher, et al., 1995).

While overgeneralization (common to this literature) should be avoided, the theories behind privatization actually suggest that ownership may be less important than competition (or regulation) in achieving performance gains, and that efficiency practices and economies of scale are most important (Donahue, 1989). The implication is that many of the apparent deficits of public ownership can be overcome, at least in part, through various means.

Nonetheless, privatization can be advantageous. It complements the forces of competition and contestability that have emerged in the industry. It can bring a much-needed influx of private resources to an industry facing substantial capital and operating costs. It can introduce a profit motive to the achievement of goals (including societal goals). It can promote operational efficiency, particularly in the areas of labor, energy, and treatment chemicals. It can encourage innovation in management. It can contribute to the professionalization of the labor force.

TWO MODELS OF PRIVATIZATION

The U.S. privatization experience provides two sharply contrasting models and yet another form of competition. The "contracts" model involves public ownership with "delegated" management, a generally limited use of private capital for major projects, and intense competition for contracts. Under the contracts model, public ownership and the competitive market "substitute" for economic regulation. In fact, the states provide little regulatory oversight of contract agreements.

The "ownership" model consists of investor ownership, use of private capital for major projects, and limited (and highly structured) competition. Investor-owned water utilities are subject to the jurisdiction of the state public utility commissions, which approve territories and terms of service, investments, expenditures, prices, and rates of return (profits).

Contracts

The contracts model is receiving considerable attention, even though some contracting activity has always occurred. The model has many variations, with various types and degrees of private-sector involvement.[2] Contracting has gained considerable ground in the wastewater sector but is gaining interest in the water sector as well. Recent tax policy changes have stimulated contract activity but many institutional and political barriers remain.

The leading contract firms in the United States include: United Water Services (Lyonnaise des Eaux), American Commonwealth, Environmental Management, Professional Services Group, U.S. Filter, U.S. Water LLC, Earth Tech, OMI/CH2M Hill, Severn Trent Environmental, and Vivendi (Compagnie Générale des Eaux). The recent merger trend continues to narrow the list and further concentrate market power. Participating actively in the contract process is a select group of firms that advise cities about how to privatize and participate actively in the implementation process (for example, in proposal and bid design). They might be considered "facilitators" by some, "enablers" by others. The prominent privatization contract advisors include: Malcolm Pirnie; CH2M Hill; Camp, Dresser, and McKee; Arthur Andersen; and Raftelis Environmental Consulting.

By one account, publicly owned systems entered into 186 contracts with a total value of $19.3 billion during the 1985 to 1998 time period (*Public Works Financing*, 1998a). Larger contracts in force for various aspects of water operations and management include Atlanta, Georgia ($260 mil.); Detroit, Michigan ($260 mil.); Camden, New Jersey ($200 mil.); Edison, New Jersey ($120 mil.); and Seattle, Washington ($101 mil.). Larger contracts in force for the wastewater industry include Cranston, Rhode Island ($400 mil.); Milwaukee, Wisconsin ($350 mil.); Oklahoma City, Oklahoma ($250 mil.); Indianapolis, Indiana ($225 mil.); and Camden County, New Jersey ($170 mil.).

To be protective of the interests of the principal (the contracting local government), the contracting process must include several key elements including but not limited to: an independent analysis by a qualified consultant; a carefully designed competitive bidding process, including prequalification of potential bidders; a thorough specification of functional roles and responsibilities; a statement of liability and risk assumption; clear, specific, and measurable performance goals; incentive-based compensation arrangements based on success in meeting performance goals; a plan for public information and involvement; a procedure for securing regulatory approvals; a performance review and evaluation process; mechanisms for major and minor conflict resolution; and provisions for termination and transition upon completion of the term (Beecher, et al., 1995).

The need for "best practices" in the design and implementation of privatization arrangements is great. In September 1998, a coalition of privatization interests provided a proposed checklist to the U.S. Environmental Protection Agency, which has asserted review authority for long-term concession agreements (*Public Works Financing*, 1998b).

A well designed and carefully implemented contractual arrangement can offer several potential advantages over the status quo: efficiency and innovation (demonstrable savings) for cities that will not otherwise implement these measures or sell their systems; bidding process drives down costs; maintains low-cost (subsidized) financing options; maintains tax advantages for the system; allows a wide range of costing and ratemaking

alternatives; creates a mobile professional work force; retains local control for development and ratemaking purposes (also a disadvantage); fewer barriers to entry than private ownership; and may facilitate transition to other options (including private ownership).

These advantages are not insignificant. Indeed, some water and wastewater systems have experienced demonstrable savings and achievements since initiating contract arrangements. However, the potential disadvantages of the contracts model appear to be quite numerous: more emphasis on bidding process than long-term accountability; competition is intermittent at best; "quiet" (no bid) renewals and sweetheart deals; special technical processes may "lock in" a contractor with expertise; contracting is oligopolistic at the bidding stage because few firms qualify; contracting is monopolistic once the contract is awarded, with relatively weak competitive pressure over time; principal-agent issues, namely whose interests are served when responsibilities are "delegated";[3] potential for ruinous competition (underbidding); contracting obscures responsibility for investment decisions; can increase or shift risks to cities; may cause under investment in infrastructure; contracting limits infusion of private capital; capacity of local government and the need to be a "smart buyer";[4] potential need for micro-management or "micro-oversight" to ensure that performance goals are met; politicization of decisionmaking (including ratemaking practices); downsides of franchise arrangements (cable television, for instance); barriers to termination and market exit;[5] bidding presumes maintenance of current prices; decoupled costs and prices provides no assurance that savings or "profits" will flow to system improvements or to ratepayers (often not);[6] require "foolproof" contracts and crystal-clear performance incentives, and meaningful enforcement mechanisms; contracting can invite favoritism, waste, fraud, and corruption involving public and private partners;[7] "best practices" are not well established; and spatial and temporal boundaries of cities thwart optimal long-term solutions, namely regionalization. A patchwork of private contracts, in other words, will not help the water industry achieve much needed scale economies through the formation of publicly or privately owned regional systems.

The longer the contract, the greater is the opportunity for the contractor to produce promised results and avoid significant adversities, such as drastic labor cuts. Contracts are growing longer in length and more lucrative financially, to the obvious benefit of the contracting community. Larger and longer contracts reduce risks and enhance profitability, but they have other implications as well. First, they narrow the field of viable competitors, resulting in an oligopolistic market. Second, they challenge the capacity of local governments to design and oversee contracts to protect their interests over the long haul. Experienced contractors generally have the advantage in the contracting process. Third, and perhaps most important, they suggest the possibility of monopoly power and potential for abuse over time.

The issue of persistent monopoly power is perhaps the most important consideration for policymakers. Fine lines and distinctions are drawn between contracts, concessions, and franchises. But in reality, each has elements of monopoly power. A twenty-five year cycle of bidding – however intense the bidding – hardly constitutes robust competition.[8] The competition is intermittent at best. Moreover, the contracts model is designed rather transparently to circumvent the authority of the state to regulate monopolies and their profits. According to one of the leading contract advisors, "A very restrictive feature in many states is the inability to remove the privatization transaction from the control of the public service commission of that state. As a result, rates of return are strictly monitored." (Raftelis, 1993, p. 115)

Private Ownership

Private ownership is sometimes considered the "pure" form of privatization. Like the contracts model, the ownership model has both advantages and disadvantages. Some of the advantages of private ownership are based not in private ownership alone but in private ownership coupled with regulation of the monopoly. These advantages include: establishes water service as a business, more like other major utilities; encourages private investment; more efficient procurement practices; allows unbounded regional and multisystem solutions (for both water and wastewater services); maintains ongoing competitive pressure for efficiency via contestability (because of the eminent domain powers of cities); pride of ownership (especially when employee-owned); establishes long-term accountability; less vulnerable to trends and changes in local politics; reduces potential for fraud and corruption; and regulation can control monopoly abuse, protect ratepayers, and provide powerful ongoing performance incentives (rate of return).

Private ownership of water systems also demonstrates some potentially relevant disadvantages: for cities, asset sales provide a one-time windfall; loss of the financing and tax advantages of public and nonprofit ownership; prices often increase to cover true costs; can shift costs without reducing costs; difficulty in valuation of utility property; perceived loss of local control;

reliance on regulatory oversight; risk of over investment (building the rate base); limits to the traditional regulatory model, particularly with regard to certain performance incentives; concern about regulatory environment; the inability for investor-owned utilities to compete because of the lack of a level playing field (financing, tax, and other considerations); and the limits of contestability to encourage discipline.

In sum, the key advantages of the contract model are gains in efficiency and professional expertise, a lower cost of capital, and the preservation of local control. Key ownership advantages are private investment and longevity, opportunities for regionalization, and accountability via independent oversight (economic regulation).

MONOPOLY AND RUINOUS COMPETITION

Privatization raises several key considerations. One, mentioned already, is the monopolistic character of water service. Privatization that creates or maintains unrestrained monopoly power is the worst possible choice. As noted by Donahue (1989, p. 78), "Half a market system – profit drive without meaningful specifications or competitive discipline – can be worse than none."

The term "monopoly" has evolved to have a pejorative meaning. A more neutral understanding is that monopoly is simply an efficient means of organizing certain economic activities based on the dominant characteristic of those activities.[9] Water service is highly monopolistic and demonstrates many of the classic economic features of monopoly: barriers to entry (economic and legal), capital intensity, high fixed costs, economies of scale (declining unit costs), inefficiency in redundancy (more than one pipe), the obligation to provide service on demand, and limited opportunities for substitution or choices.[10]

Some noneconomic rationales for monopoly organization of water service also can be provided. First, water service is "vested with a public interest" because of water's central role in maintaining life. Second, a related point is that water service is essential for providing related services that also are essential – fire protection and sanitation. Third, water is an environmental resource that is finite and available at nature's convenience.

The persistent power of public monopolies is a concern at least as important as the economic power of contractors. In fact, the relationship can be mutually exploitive. Competitive bids and private contracts do not alter the basic public monopoly. Often, local control over rates is offered as a justification for local independence from regulation. However, the continued decoupling of costs and rates can lead to inefficiency and inequity for ratepayers. Cities may view the water system as a potential source of subsidies for other programs once savings are achieved. Significant private involvement in a public monopoly raises core accountability issues. Regulation of the ultimate monopoly – the city – may be justified by public-interest considerations.

Another major consideration is the uneven playing field for competition, which presents one of the most formidable barriers to the efficient restructuring of the water industry. Various public policies contribute to this unevenness.

Each of the major players in the water industry competition has distinct advantages. The advantages of publicly owned systems are tax exemption, financing, subsidies, flexibility in designing rates and charges, eminent domain power, and unrestrained marketing ability. Nonprofit systems have tax and financing advantages, as well as a possible advantage in terms of the ability to promote regionalization. Given the current policy regime, nonprofit systems may be especially advantageous. The chief advantage of contractors is the absence of state oversight and profit regulation, and the ability to secure long and lucrative agreements. Energy companies and foreign investors have the distinct advantage of deep pockets for acquisitions and expansion. Somewhat ironically, investor-owned water utilities are the least advantaged in this equation but they can boast brand name recognition and longevity in the water business.

A related consideration is the potential for "ruinous" competition – an old-fashioned but potentially useful term in the context of an uneven playing field for competition. Ruinous competition does what it suggests: ruin the prospects of an otherwise viable participant in the market place. Potentially ruinous competition in the water industry today includes: underbidding for contracts (loss leaders), excessive bidding and concession fees that distort markets,[11] overpaying for acquisitions, cream skimming of and bypass by large-volume customers, underpricing by unregulated firms in markets with regulated firms, and (perhaps the most serious) persuading cities to condemn private utilities and turn the system over to private contractors.

The concept of ruinous competition was used to rationalize the formulation of economic regulation in

the first place and it might be used to rationalize the extension of regulatory oversight today:

> *The emergence of unregulated competition for firms that are subject to price regulation can, in some circumstances, form the basis for the extension of regulation to the new unregulated competition in order to permit the original regulatory scheme to serve some of its purposes effectively. This extension of regulation to protect existing regulation typically occurs in one of two situations—when unregulated competition threatens to undermine minimum price regulation, and when unregulated competition threatens to interfere with the pursuit of social policies through rate design… [U]nregulated competition in the market served by the regulated firms constitutes a direct threat to the ability of minimum rate regulation to protect the revenues and financial condition of the regulated firms.* (Pierce and Gellhorn, 1994, p. 62)

THE ROLE OF REGULATION

Privatization of a monopolistic industry beckons for the consideration of economic regulation. Economic regulation recognizes the monopolistic nature of the industry and seeks to balance the interests of producers and consumers. Regulation can address financial stability and operational reliability concerns. Regulation may be particularly necessary when costs are rising and demand is flat, as is the case for the water sector.[12] Regulation can encourage the application of least-cost solutions, including regionalization to achieve economies of scale. The role of regulation and the capacity of governing institutions to regulate are paid more attention in the context of privatizing global state-owned enterprises.

The long life of water utility assets and concerns about intergenerational equity also may justify regulation. Regulation also can address other equity issues that arise inevitably in the provision of an essential service, including the ability of subpopulations to pay for service. Regulation also can be adapted to different types of water and wastewater systems and various forms of ownership. Regulation can be applied to the public, nonprofit, and private sectors alike. Exemptions from regulation can be provided under some circumstances, while broader regulatory authority is maintained.

Economic regulation substitutes for public ownership on the one hand and competitive markets on the other. When thoughtfully designed and implemented, regulation can provide: a check of monopoly power and allowance of reasonable profits (regardless of ownership); an independent review of the prudence of investments and expenditures and the justness and reasonableness of rates; uniformity and openness in record keeping and cost accounting; performance incentives (cost recovery and rates of return); assurance that benefits flow to systems and ratepayers; more efficient (that is, cost-based) water prices; an expeditious forum for hearing disputes and resolving complaints among utilities, contractors, and customers;[13] a level playing field for structured competition; the legitimacy and authority of the state and additional safeguards to cities; more regulatory capacity than local governments and economies of regulation (which frees local resources for other pursuits); less need to micromanage utility decisionmaking; fewer opportunities for coercion, corruption, or politicization; and attention to long-term social, environmental issues.

Traditional rate-of-return regulation, despite its limitations, provides a powerful system of incentives. Regulators provide utilities with an authorized but not a guaranteed rate of return. Under pressure from stockholders, utilities must work to achieve their authorized return between rate cases. In fact, most regulated systems find it difficult to achieve their authorized return, particularly in recent years. Rate-of-return incentives can be used to reward systems that meet performance goals, including efficiency as well as social and environmental goals. Also, modifications and regulatory alternatives (price caps) are emerging to address the shortcomings of the traditional regulatory model, fine-tune incentives, and provide greater flexibility.

The state regulatory "climate" in which investor-owned utilities operate plays a salient but little analyzed role in the choice between ownership and competition (Beecher, et al., 1995). A level playing field for competition would stimulate more ownership. Regulation can and should be adapted to meet the changing conditions and needs of the private participants in the water industry.

STRUCTURED COMPETITION

Structured competition might be used to combine certain elements of competition with the protective features of regulation. Structured competition recognizes both the monopolistic character of the water industry and the rationale for regulation stemming from economic and noneconomic considerations.

Although the model must be more fully developed and articulated, elements of structured competition might include: uniform record keeping and cost accounting; comparability in ratemaking practices, including all tariffs and charges; modified or flexible regulation to achieve policy goals, including positive performance incentives; promotion of wholesale water markets to help achieve regionalization; approval of flexible, negotiated, or market-based rates, especially under competitive circumstances; consistent policy on franchises and the exclusivity of service areas; allowance of entry into new service markets through regulated or unregulated affiliates based on risk assessment; profit-sharing for ancillary services provided by regulated utilities; [pre]certification of privatizers, regulatory review of operations contracts, and regulatory dispute resolution between cities and contractors; and uniform regulatory jurisdiction for publicly and privately owned utilities and rules to help level the playing field for competition.

Designing and implementing a structured competition model for the water industry would be a daunting task, but the alternative is to continue on the path of fragmented policy, distorted competition, and potential monopoly abuse.

PRIVATIZATION POLICY

Privatization raises a number of overarching public policy issues that should be debated at the various levels of government and within the private sector as well. Foremost among these considerations are: the importance of accountability regardless of ownership form; the capacity of government to provide regulatory oversight and correct market failures[14]; the establishment of best practices for contract management; the need for sustained performance incentives; the tradeoffs involved in alternative models of privatization; the concentration of economic power through mergers and acquisitions (utilities and contractors); antitrust and related legal concerns; globalization and the level of foreign investment in the water industry; the delineation of government's core functions (ownership, operation, and/or economic regulation); the appropriate roles of the public, nonprofit, and private sectors in achieving long-term societal goals; the potential for cooperation as well as competition; and the effect of various public policies and the regulatory climate on privatization choices (especially tax, financing, and territorial policies).

The last point cannot be overstated. Were there a level playing field for the competition among ownership and operational forms, and were there consistent public policies toward the participants in the competition, a very different water industry might emerge.

CONCLUSION

The private sector can, will, and should play a role in the water industry. However, privatization alone does not ensure a competitive market or the discipline that competition brings. Occasional competition does not resolve the fundamental issues of monopoly that arise in the provision of water services. However tempting, accountability should not be sacrificed at the altar of efficiency. Government should harness the resources and innovations of the private sector while recognizing the need to oversee a very monopolistic industry that also is vested with a public interest.

Janice A. Beecher is the principal of Beecher Policy Research, Inc., Indianapolis, Indiana. She has a Ph.D. in political science from Northwestern University and specializes in public policy research related to the structure and regulation of the water industry. This paper also was presented at the 1999 Annual Conference of the American Water Works Association. Janbeecher@cwix.com

REFERENCES

Beecher, Janice A. 1995. *1995 Inventory of Commission-Regulated Water and Wastewater Utilities.* Indianapolis: Center for Urban Policy and the Environment.

Beecher, Janice A. et al. 1995. *Regulatory Implications of Water and Wastewater Utility Privatization.* Columbus, OH: National Regulatory Research Institute.

Beecher, Janice A. 1998. *Water Compared: Structural, Regulatory, and Strategic Issues for Utilities in a Changing Context.* Washington, DC: National Association of Water Utilities.

Chessler, David. 1996. *Determining When Competition is "Workable": A Handbook for State Commissions Making Assessments Required by the Telecommunications Act of 1996.* Columbus, OH: The National Regulatory Research Institute.

Donahue, John. 1989. *The Privatization Decision.* New York: Basic Books.

Johnson, Gerald W., and John G. Heilman. 1987. "Metapolicy Transition and Policy Implementation: New Federalism and Privatization," *Public Administration Review* (November/December), pp. 468-77.

Kettl, Donald F. 1993. *Sharing Power* . Washington, DC: The Brookings Institution.

Kikeri, Sunita, et al. 1992. *Privatization: The Lessons of Experience.* Washington, DC: The World Bank.

Pierce, Richard J., Jr. and Ernest Gellhorn. 1994. *Regulated Industries in a Nutshell.* St. Paul, MN: West Publishing.

Public Works Financing. 1998a. "Long-Term Service Contracts Blossom," (July/August).

Public Works Financing. 1998b. "Proposed Checklist for Federal Review of Long-term Wastewater Concession," vol. 121 (September), p. 30.

Public Works Financing. 1998c. "Atlanta Gets 44% Savings on Water O&M," (September).

Raftelis, George A. 1993. *Comprehensive Guide to Water and Wastewater Finance and Pricing.* Ann Arbor, MI: Lewis Publishing.

Savas, E.S. 1987. *Privatization: The Key to Better Government.* Chatham, NJ: Chatham House.

The Birmingham News. 1998. "Water Profits to Fund New Schools, Upgrades," (November 25).

U.S. Environmental Protection Agency. 1997. *Community Water System Survey: 1995.* Washington, DC: U.S. Government Printing Office.

Vickers, John, and George Yarrow. 1991. "Economic Perspectives on Privatization," *Economic Perspectives* 5 (Spring).

Wolf, Charles, Jr. 1991. *Markets or Governments: Choosing Between Imperfect Alternatives*. Cambridge: MIT Press.

ENDNOTES:

[1] Wolf (1991) stresses the importance of understanding of both market and nonmarket (government) failure. See also Vickers and Yarrow (1991).

[2] Many resources are available on the available options, including publications by the U.S. Environmental Protection Agency and the U.S. General Accounting Office.

[3] On principal-agent theory, see Kettl (1993).

[4] On the importance of being a smart buyer, see Kettl (1993).

[5] The Atlanta contract, for example, provides for a 200 percent payback penalty and numerous legal requirements for termination. According to a United spokesman, by investing heavily to optimize operations during the first two years, United Water will quickly get to a point where it is too expensive for the city to terminate" (United Water Spokesman). (*Public Works Financing* 1998c, p. 7)

[6] Savings from contracts often are used to reduce other municipal obligations and burdens. In Birmingham, Alabama, for example, voters rejected a sale of the water system to fund much needed school renovations. An alternate plan involves borrowing funds to repay the water system's debt and fund schools. The debt would be repaid with "profits" from the water system; once the debt is repaid, the city can use the profits for other capital needs, including school construction and renovation. (*The Birmingham News* 1998)

[7] Says Kettl (1993), "Despite the enthusiasm for entrepreneurial government and privatization, the most egregious tales of waste, fraud, and abuse in government programs have often involved greedy, corrupt, and often criminal activity by the government's private partners – and weak government management to detect and correct these problems" (p. 5).

[8] On regulatory review of competitive and noncompetitive services, see Chessler (1996).

[9] The term "natural monopoly" should be avoided because monopolies exist in part because of policy institutions that create and maintain them.

[10] Water itself has no substitutes, only the quality of water and the method of delivery can vary.

[11] An off-the-record characterization of concession fees is that they constitute a form of legalized extortion.

[12] This unenviable challenge contrasts sharply with the energy and communications industries, where costs are stable or declining and demand continues to rise. See Beecher (1998).

[13] Regulatory proceedings often require less time and resources than full-blown judicial proceedings.

[14] The capacity of evolving governments to regulate is a central issue in the privatization of state-owned enterprises. See Kikeri, et al. (1992).