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REGULATORY IMPLICATIONS OF WATER AND WASTEWATER UTILITY PRIVATIZATION

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EXECUTIVE SUMMARY

Privatization has risen to a prominent position on the national and international policy agendas. Privatization of water and wastewater services in the United States is attracting increased attention because local governments simultaneously are facing substantial infrastructure needs and severe fiscal constraints. The impetus for privatization is mostly pragmatic, although a favorable political environment plays an important role as well. Privatization advocates believe that government is best at *ensuring* the provision of essential goods and services, but that the private sector is best (especially more efficient), at actually *providing* goods and services. Expanding the role of the private sector can be accomplished in a variety of ways. It can involve the divestiture of assets from the public to the private sector, but it also can involve a variety of public-private partnerships.

The debate over public versus private ownership can be intense. Advantages and disadvantages are associated with each ownership form. The empirical evidence on efficiency differences and other differences between utilities with alternative ownership forms is mixed. Some studies indicate that the private sector can provide services more efficiently; others are not so conclusive. Both sectors seem to suffer from a degree of inefficiency. In fact, several studies reveal no statistically significant difference between publicly and privately owned utilities for certain indicators. An increasing amount of applied research tends to favor privatization of water and wastewater services, and several successful public-private partnerships in the United States have been documented. However, the need for further empirical research on the effects of a *change* in ownership is great.

The *privatizers* are the investor-owned utilities and private technical firms that are actively seeking to expand their role in water supply and wastewater treatment. An extreme form of privatization occurs with divestiture and the transfer of utility ownership and operational responsibilities to a private monopoly. Acquisitions of publicly owned systems by investor-owned utilities constitute this form of privatization. Many local officials prefer to retain ownership of utility assets and use partnerships for operational services. A wide variety

of partnerships is available. Forming successful partnerships requires attention to a myriad of details, especially provisions for risk management. Cities need expert analysis and assistance as they venture into privatization agreements. An important concern is whether the privatizers will take advantage of the relative inexperience of many communities in designing, implementing, and monitoring privatization arrangements

Thirty cases of water and wastewater privatization were compiled as part of this study. Although nonrandom, the cases are somewhat representative of different geographic regions and systems with variations in population and other characteristics. The cases are very instructive about why cities privatize. The leading reasons were the need for funding for capital improvements and problems complying with environmental standards. Source-of-supply or capacity limitations also were frequently mentioned. In many of the privatization cases studied, cost reductions were accomplished. Privatization can lead to disputes and even litigation, although most of the participants interviewed had very favorable views about privatization. Five cases of municipalization also were examined. In all five communities, acquisitions occurred because local officials wanted to control system growth for economic development purposes, they wanted to control ratemaking, and they believed rates for service were too high.

The barriers to privatization are formidable. Some barriers are related to the actual process of privatization, which can be procedurally complex and possibly intimidating. Financial barriers can be significant as well. A major issue in sales and acquisitions is the valuation of utility assets; in the context of regulation, acquisition adjustments for purchase prices above book value sometimes are considered. Political barriers, such as opposition by labor unions and voters, are relevant in most privatization cases. Many municipal utility managers also are wary of giving up control over utility operations. Privatization also cannot be implemented unless certain policy barriers are overcome. These include federal policies related to grants, taxation, and procurement, as well as state regulatory and other policies. Some emerging policy initiatives at the federal and state levels are designed to address these barriers and provide positive incentives for privatization. New Jersey, for example, recently enacted legislation to create a more favorable climate for public-private partnerships.

Regulation by the state public utility commissions is perceived as a significant barrier to privatization. Many privatization agreements are designed explicitly to avoid state oversight because economic regulation is perceived as overly bureaucratic and a threat to profitability. Cities also do not want to surrender control over ratemaking to the states. Commissioners and their staff have little systematic information on privatization in their states. Commission oversight generally is limited to review and approval of mergers, acquisitions, and major contracts involving regulated utilities, most of which are investor-owned. Regulatory policies can be implemented either to encourage or discourage privatization activity by regulated utilities. However, privatization may require new regulatory models. The concept of *structured competition* may be very suitable. The principal challenge for regulators will be to create a more level playing field for regulated utilities, and to allow competitive markets to emerge and mature without subjecting captive ratepayers of utility monopolies to undue risk. Some states may want to consider giving commissions registration or certification authority over private service providers not otherwise classified as utilities. Another possible commission role is in providing dispute resolution between municipalities and their private contractors.

The privatization of water and wastewater services is a global phenomenon. Foreign companies are providing services in the United States and U.S companies are providing services abroad. Several French and British firms are particularly aggressive competitors. Many of the major investor-owned water utilities in the United States have international partners. Privatization and global competition will alter the character of the water and wastewater industries in fundamental ways and present numerous challenges to policymakers, including state public utility regulators.

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FOREWORD

Restructuring is affecting the water and wastewater utility industries, just as it has affected other public utility industries. One potentially important form of restructuring is an expansion of private-sector involvement. This report concerns the regulatory implications of privatizing water and wastewater services.

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July 1995

CHAPTER 1

INTRODUCTION TO PRIVATIZATION

Privatization of services traditionally provided by government agencies is an old idea that gained substantial popularity both among academics and politicians during the 1980s. By the early 1990s, numerous experiments in privatization could be observed both abroad and domestically. In many countries, under various political regimes, state-owned enterprises have been privatized for the first time. Among the leading examples of privatization are the transformations of formerly nationalized public utilities, including the water systems in Great Britain and France. In the United States, privatization has been advocated both as a means of promoting economic efficiency and reducing the size and scope of government.

Privatization advocates believe that government is best at identifying policy objectives and priorities, setting performance standards, and providing mechanisms or incentives for their achievement. New York Governor Mario Cuomo expressed the emerging philosophy that "Government's role is not necessarily to provide services, but to see that they are provided."[1] Similarly, Indianapolis Mayor Stephen Goldsmith has said that "Governments must be more of a rudder and less of an oar."[2] Following privatization, government becomes an *arranger* rather than a

Smith on Privatization

"In every great monarchy in Europe the sale of the crown lands would produce a very large sum of money, which, if applied to the payment of the public debts, would deliver from mortgage a much greater revenue than any which those lands haver ever afforded to the crown . . . When the crown lands had become private property, they would, in the course of a few years, become well improved and well cultivated" (Adam Smith as quoted in Vickers and Yarrow, *Privatization*, 1988).

[1] Jenny Heffron, "Privatization Provides Government Services, Facilities," *Small Flows* 6, no. 1 (January 1992): 1.

[2] As cited in the Proceedings of the Strategic Research Institute Conference on Public-Private Partnerships, New York, March 1994.

producer.[3] Privatization advocates believe that the private sector is better (especially more efficient) than the public sector at producing and delivering goods and services. Generally, a limited form of government is preferred so that the private marketplace is unencumbered by an excessive public bureaucracy. Governments can reduce their role by divesting, delegating, and displacing.[4]

Importantly, however, the privatization movement is not necessarily *antigovernment* or even *antiregulation;* privatization simply redefines roles and responsibilities in both the public and private sectors. In fact, many forms of privatization involve *cost shifting* (to the private sector), but not necessarily significant *cost elimination* or even *cost reduction.* In fact, certain forms of privatization will appear to increase costs (despite improved efficiencies) because they entail the loss of governmental subsidies and force providers to charge the true cost of service to beneficiaries of the service.

Privatization favors the use of markets, assuming the presence of willing and active buyers and sellers to participate. In fact, Indianapolis' Goldsmith popularized the term *marketization* in referring to the use of market mechanisms (such as competitive bidding) for goods or services traditionally provided by the public sector. Under marketization, existing government agencies may be required to compete with the private sector for the public's business. The terms marketization and privatization both emphasize the importance of introducing competition to noncompetitive or monopolistic activities. A substantial amount of research suggests that competition is at least as important (or perhaps more important) in achieving economic efficiency than ownership form. For the water sector, this axiom would suggest that the competition between publicly and privately owned utilities, as well as between similarly owned utilities, is beneficial from an economic standpoint.

The increasing use of markets, however, does not mean that all forms of market failure have been or can be overcome. Utility services, particularly at the distribution level, are

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[3] E. S. Savas, *Privatization: The Key to Better Government* (Chatham, NJ: Chatham House Publishers, 1987).

[4] E. S. Savas, "A Taxonomy of Privatization Strategies," *Policy Studies Journal* 18, no. 2 (Winter 1989-1990): 343-355.

monopolistic. Water and wastewater services are regarded as especially monopolistic because their delivery requires substantial fixed assets and demonstrates considerable economies of scale. Societal measures are needed to check the potential abuse of monopoly power in cases where competition is insufficient. Thus with some forms of privatization, namely the shift from a publicly owned or managed monopoly to a privately owned or managed monopoly, the need for regulatory safeguards remains.

Perspectives on Privatization

The reasons for privatization vary substantially, from lofty ideological arguments to very practical ones. The reasons vary by nations and by localities within nations. The reasons vary with political parties and administrative leadership. Finally, the reasons also vary with each sector of the economy for which the expansion of private involvement is considered. Although many arguments favoring privatization are advanced by economists and crafted in economic terms (that is, efficiency, markets, and competition), great care should be taken not to neglect the very political nature of privatization.[5] Privatization activities redistribute costs and benefits among diverse and competing groups.

Intellectual Rationale

In his comprehensive treatment of the subject, E. S. Savas distinguishes among four intellectual rationales for privatization:[6]

- *Pragmatic.* This view emphasizes that prudent privatization leads to more cost-effective public services. The prevailing policy goal according to this viewpoint is *better government.* Privatization efforts under the Carter administration exemplified this viewpoint.

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[5] Jeffrey R. Henig, "Privatization in the United States: Theory and Practice," P*olitical Science Quarterly* 104, no. 4 (1989-90): 649-70.

[6] Savas, *Privatization,* 2.

- *Ideological.* This view holds that government is too big, too powerful, and too intrusive in people's lives and therefore is a danger to democracy. Government's decisions are political and thus are inherently less trustworthy than free market decisions. The policy goal is *less government,* as exemplified by policies associated with Reagan conservatism.

- *Commercial.* This view recognizes that government spending constitutes a large part of the economy, and that more of the public's dollars can and should be directed toward private firms. State-owned enterprises and assets can be put to better use by the private sector. The policy goal is *more business.* A national association representing printers argued this viewpoint before a Congressional committee considering opportunities to cut costs at the Government Printing Office.

- *Populist.* This view contends that people should have more choice in public services. Citizens should be empowered to define and address common needs, and to establish sense of community by relying more on family, neighborhood, church, and ethnic and voluntary associations and less on bureaucratic structures. The policy goal is a *better society.* The Bush administration reflected this view of privatization

In practice, selling the concept of privatization probably requires elements of all four arguments. As a very general rule, privatization globally has a strong ideological connotation. Some labor union critics of utility privatization in Great Britain branded it as *purely* ideological, and without analytical justification.[7] Indeed, the British experience has as much or more to do with the conservative manner of government under Margaret Thatcher than the often-cited need for capital. According to Leonard Hyman, "As a matter of dogma, the Thatcher government assumed private companies would run more efficiently than state-owned firms, that the price of service would decline as a result of privatization, and that it was important to encourage ordinary citizens to own stock."[8] By comparison, however, the substantial need for capital is a driving force behind privatization in the developing world.

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[7] John Lyons, "Privatizing Electricity Supply Cannot be Justified," *Energy Policy* (April 1989): 149-54.

[8] Leonard S. Hyman, "Privatization: The Hows and the Whys," *Public Utilities Fortnightly* (February 1, 1993): 18.

In the United States, the rationale for privatization seems somewhat less ideological and more pragmatic. The commercial and populist arguments favoring privatization reinforce the pragmatic viewpoint. Although the movement today is playing out against a clearly more conservative political backdrop, especially at the national level, the reasons provided for privatizing are not necessarily partisan. Early 1995 saw an apparent joining of the congressional and presidential minds on a national privatization agenda, motivated by the desire for monumental federal spending cuts.[9] The idea is to shift costs and reduce or eliminate governmental subsidies. The five federal power administrations (including Bonneville Power), the Tennessee Valley Authority, Amtrak, and various functions of the National Aeronautic and Space Administration, the U.S. Geological Survey, the Internal Revenue Service, the Food and Drug Administration, and the Social Security Administration all became targets for potential privatization.

Privatization frequently is linked to the broad interest in "reducing" and "reinventing" government. Privatization can help reduce government size as long as funds previously appropriated to the public provision of a good or service are not simply diverted to other governmental functions.[10] Reinvention suggests that government should focus on the broader roles of taxation and allocation, while leaving the actual provision of many services to the private sector. The contemporary emphasis on using cost-based charges and user fees for services, and reducing or eliminating cross-subsidization, is consistent with this rationale for privatization. With budget cuts, belt-tightening, and the familiar refrain "no new taxes," it should come as no surprise that privatization is gaining wide appeal.

Counterpoint

Not everyone, of course, believes that privatization produces unequivocal results. Privatization advocates, in their zealousness to promote a particular point of view, may overlook certain fundamental differences between public and private activities and as a

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[9] "GOP, Clinton Both Embrace Privatization," *Columbus Dispatch* (May 29, 1995), 2.

[10] Michael L. Marlow, "Privatization and Government Size," *Public Choice* 68 (1991): 273-276.

consequence make false assumptions about expected performance. John Donahue's observations on this point are well made:

> Proponents are fond of invoking the efficiency that characterizes well-run companies in competitive markets and then, not troubling with any intervening logical steps, trumpeting the conclusion that private firms will excel in public undertakings as well. To go from the observation that private companies tend to do what they do better than public agencies, to the assertion that companies should take over the agencies' duties, is rather like observing that the clients of exercise spas are healthier on average, than the clients of hospitals, and concluding from this that workout coaches should take over for doctors. Public tasks are different, *and mostly harder.* At the same time, it is perverse to reject privatization because some enthusiasts favor it for the wrong reasons.[11]

The theoretical advantages of privatization will not be realized unless certain essential conditions are met. As Donahue also notes, "half a market system--profit drive without meaningful specifications or competitive discipline--can be worse than none."[12]

Charles Wolf, another leading scholar of privatization, emphasizes that the choice between markets and governments is a choice between imperfect alternatives.[13] John Vickers and George Yarrow also observe that any ownership form is imperfect and that "privatization can be viewed as a means of reducing the impact of government failure, albeit at the risk of increasing market failure, and of changing monitoring arrangements."[14] To many, the imperfection of greatest concern is that privatization will sacrifice *equity* for *efficiency,* known

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[11] John D. Donahue, *The Privatization Decision* (New York: Basic Books, 1989), 215. Emphasis added.

[12] Ibid., 78.

[13] Charles E. Wolf, *Markets or Government: Choosing Between Imperfect Alternatives* (Cambridge, MA: The MIT Press, 1991).

[14] John Vickers and George Yarrow, "Economic Perspectives on Privatization," *Journal of Economic Perspectives* 5 (Spring 1991): 130.

traditionally in the public policy literature as "the big tradeoff."[15] Modern policy tradeoffs often involve the *environment* as a third dimension. The considerable uncertainty that accompanies the privatization decision calls for due diligence on the part of public policymakers to ensure that the pubic interest is served and that only informed tradeoffs are made. With privatization, the public sector may be reduced, but the depth of its responsibilities actually may grow.

Theory Meets Practice

Privatization theory rests in part on the idea that goods and services are consumed individually or jointly, and that exclusion from consumption may or may not be feasible.[16] This basic typology, advanced by Savas and others and illustrated in table 1-1, is well demonstrated with examples from the water sector. Free markets make sense when goods or services are individually consumed and exclusion is feasible. Bottled water is like other consumer goods in these regards. So are individual septic systems. At the other extreme are navigable open waters, which tend to be collectively used and for which exclusion generally is infeasible. Common-pool goods are individually consumed, but exclusion is generally infeasible. Accessible groundwater (through wells) and recreational waters are examples. Toll goods are goods that are jointly consumed, but for which exclusion is feasible. Water supplied through community systems and community wastewater treatment can be considered toll goods. They are jointly consumed to the extent that they are best provided through distributional systems, but exclusion is feasible (that is, service to individuals can be discontinued). Toll goods provided by the public sector are considered very appropriate targets for privatization.

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[15] A classic treatise on the subject is by Arthur M. Okun, *Equality and Efficiency: The Big Tradeoff* (Washington, DC: The Brookings Institution, 1975).

[16] Savas, *Privatization.*

TABLE 1-1
EXCLUSION AND CONSUMPTION PROPERTIES
OF GOODS AND SERVICES

		Exclusion	
		Feasible	Infeasible
Consumption	Individual	***Private goods*** (for example, bottled water, individual septic systems)	***Common-pool goods*** (for example, accessible groundwater and recreational waters)
	Joint	***Toll goods*** (for example, community water supply and wastewater treatment)	***Collective goods*** (for example, navigable open waters)

Source: Adapted from E. S. Savas, *Privatization: The Key to Better Government* (Chatham, NJ: Chatham House Publishers, 1987), 39 and 56.

Although the reasons for privatizing vary, the general approaches are common to most models. Savas summarizes the basic strategies recommended by many privatization proponents.[17] First, the government should practice "load shedding," by encouraging the marketplace and voluntary organizations to supply goods and services now provided by the government. Second, the government's role in necessary activities should be reduced through devolution and making greater use of the private sector through vouchers, franchises, and contracts. Third, the financing and administration of services should be at the lowest practical level of government in order to be closer to the people served. Fourth, user charges should be used when possible to make the true cost of services more evident. Finally, competition should be introduced and promoted wherever possible and government monopolies should be

[17] Ibid., 33.

broken up. Deregulation is recommended by Savas as a "useful tool" for accomplishing this goal.

Privatization advocates are confident that these strategies will produce efficiencies and thus lower costs to consumers and taxpayers. Improvements in service quality and expanded consumer choices also are anticipated. In the mean time, government resources and expertise will be freed for other endeavors, including functions that only government itself can perform.

Privatizing Water and Wastewater Services

The rising cost of water and wastewater services has led public policymakers and private entrepreneurs to consider the potential for an expanded role of the private sector in these service areas. As used in this report, privatization for water and wastewater involves shifting all or some ownership or operational responsibilities from the public to the private sector. Privatization includes sales of assets; contracts for operation, maintenance, and administrative services; financing arrangements that make use of private capital; and various forms of public-private partnerships for the construction and/or operation of all or part of a water or wastewater system. In realty, privatization is not a dichotomy of public v. private, but rather a matter of degree of private involvement in economic activities. Regardless of their ownership, all water utilities and wastewater utilities are feeling the effects of increasingly stringent drinking water standards under the Safe Drinking Water Act and wastewater treatment standards under the Clean Water Act. Local governments bear considerable responsibility for implementing these vital environmental standards. A substantial impact on both costs and prices is inevitable. In the wake of rising costs, small water and wastewater systems have a particularly uncertain future. Many utility systems are facing additional costs associated with essential infrastructure improvements and,

> **Privatization** is the act of shifting all or some of the ownership or operational responsibilities for water or wastewater services from the public sector to the private sector.

in some areas, meeting demand growth.[18] In fact, these costs may far exceed the cost of regulatory compliance.

Privatization is viewed as a pragmatic means of coping with rising costs. One of the most frequently cited reasons for increasing the role of the private sector in water and wastewater services is that public funding (federal, state, and local) for system improvements is increasingly difficult to come by. Privatization, including various types of public-private partnerships, provides new sources of capital for utility projects. Moreover, the use of private capital for utility services frees up municipal resources and debt capacity for other endeavors.

The underlying theoretical rationale for privatizing water and wastewater services is the quest for economic efficiency. The water and wastewater industries probably suffer from an inordinate amount of inefficiency due to a long history of subsidization and resistance to full-cost pricing. It is assumed, though not necessarily proven, that private firms operate more efficiently than publicly owned ones, presumably because of the profit motive and a greater responsiveness to market signals. A related rationale for privatization is the belief that industry restructuring through privatization will result in more efficient utilities that benefit from economies of scale and scope. Privatization can facilitate consolidation and regionalization through mergers and acquisitions of small water or wastewater utilities.

Finally, not to be overlooked among the reasons for privatization is the interest on the part of the private sector in capitalizing (literally) on the needs of the public sector. The language of privatization is loaded with hyperbole about *privatization opportunities.* According to one of the major contractors, the opportunities for contract operations "are just staggering."[19] Another commentator heralded the "exploding municipal privatization market."[20] A brokerage firm's monthly newsletter announced: "Water Treatment Arena

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[18] Janice A. Beecher, Patrick C. Mann, and John D. Stanford, *Meeting Water Utility Revenue Requirements: Financing and Ratemaking Alternatives* (Columbus, OH: The National Regulatory Research Institute, 1993).

[19] "Deep Pocket Players Line Up for Another Round of Wastewater Privatizations," *Public Works Financing* 75 (June 1994): 13.

[20] "Lyonnaise Makes a Big Splash in Indianapolis," *Public Works Financing* 75 (June 1994): 18.

Presents Excellent Investment Opportunities."[21] Industry estimates indicate that privatization is under consideration for 5,000 out of 16,000 wastewater facilities in the U.S.[22] About 2,000 of these facilities are considered "serious opportunities for the private sector" that could total $3 to 4 billion in "investment opportunities" over the next several years.[23]

Although a seemingly cynical argument, the private sector is pushing privatization for self-serving reasons, namely the ability to earn profits. For their part, government officials want to take full advantage of this competitive spirit. In a capitalistic economy, of course, profit-seeking behavior should come as no surprise; nor should it be judged harshly. However, arguments for and against privatization should be evaluated with an open eye to the rational interests of the participants in the debate. Advocates on both sides will tend to overstate the advantages, and understate the disadvantages, of their particular point of view.

The Privatization Agenda

The impetus for privatization of the water and wastewater industries in the United States can be attributed in large part to the widespread efforts of several very vocal proponents and policy entrepreneurs, themselves from both the public and private sectors, who collectively have defined a privatization agenda for the U.S. These advocates include:

- The U.S. Environmental Protection Agency (EPA) has published numerous case studies, reports, newsletters, and bulletins on the privatization of water supply and wastewater treatment facilities. The EPA's *Public-Private Partnerships (P^3) Initiative* was designed to expand opportunities for public-private cooperation in environmental and health protection. The agency also publishes self-help guides and resource directories, and sponsors pilot projects.

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[21] "Water Treatment Arena Presents Excellent Investment Opportunities," *Research Register,* Raymond James Associates, Inc. (April 1995).

[22] James B. Groff, "Remarks," a presentation at the SRI Conference on Public-Private Partnerships, New York City (March 29, 1994).

[23] Ibid., 5.

- The Environmental Financial Advisory Board was established by the EPA in 1989 to identify innovative environmental financing mechanisms; address legislative, regulatory, and implementation issues related to the formation of public-private partnerships; and make recommendations about federal, state, and local accounting and disclosure standards affecting environmental programs.[24]

- The U.S. Army Corps of Engineers, through its Institute for Water Resources, has promoted research on the privatization of municipal wastewater facilities, including the development of a computer model to assist in the valuation of utility assets. Some of these efforts have been truncated by lack of funding.

- The National Small Flows Clearinghouse at West Virginia University, which receives U.S. EPA funding, provides small communities with technical assistance and resources for improving the performance and viability of water and wastewater systems. The monthly *Small Flows* publication has devoted several articles to public-private partnerships.

- Various bulletins, newsletters, and trade journals from consultants and financial houses promote the privatization perspective. *Public Works Financing* is a trade journal identifying itself as "the international guide to public-private partnerships and innovative finance." It publishes detailed technical articles on current privatization projects worldwide, many of which are water and wastewater projects.

- The National Council for Public-Private Partnerships (formerly the Privatization Council) is a nonpartisan, nonprofit organization founded in 1985 that describes itself as "the preeminent national organization dedicated to fostering entrepreneurial cooperation between public and private sectors." The Council's goal is to equip public officials and private companies with the tools needed to ensure successful partnerships. The Council sponsors a national business-government network, conferences and seminars, an information database, a speaker's bureau, and consulting services.

- The Reason Foundation is a Los Angeles, California think tank that specializes in research on privatization. Reason periodical publications include *Privatization Watch* and *Policy Insight,* both of which have included numerous case studies of privatization in the water and wastewater areas. Other think tanks, such as the libertarian Cato Institute and the conservative Heritage Foundation, also favor privatization in broad strokes.

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[24] U.S. Environmental Protection Agency, *Public-Private Partnerships Bulletin* 4 (June 1989).

Investor-owned water utilities have long advocated an expanded role for their industry. One water company president introduces his firm with a business card listing the potential benefits of privatization. The National Association of Water Companies (NAWC) has published and widely distributed a promotional package entitled *The Privatization Option,* which includes materials on the national presence of investor-owned water utilities and the advantages of privatization. NAWC members have been very active in privatization through both acquisitions and service contracts. Some of the industry's most prominent representatives have articulated the industry viewpoint.[25]

Investor-Owned Water Utility Executives on Privatization

"With the increased public awareness of water supply problems, with the recent serious outbreaks of illnesses attributed to water supply, and with the increased enforcement actions by EPA and state officials, we will see more and more opportunities for the private, regulated utility to meet the public's interest" (George Johnstone).

"The limited resources of government are better devoted to government functions such as public safety, fire protection, and education; and the proprietary functions, such as utility services, are better provided by the private sector" (Ted Jones).

"The business of government is government. Its role is to rule--set policy--to establish law. The business of business is business. . . I suggest government has absolutely no place in the water utility business. . . The process of government encroachment beyond its purpose must first be halted. Once it is stopped, we can then go to work on its reversal" (J. James Barr).

The privatization agenda has been advanced on many fronts through a fairly cohesive, if serendipitous, marketing strategy. Most proponents cite the same reasons for privatizing water and wastewater utility services, and the same barriers to implementation. The same case studies of successful public-private partnerships are referenced over and over again in various publications (admittedly including this one).

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[25] George Johnstone, President and CEO of American Water Works Company, in *American System News* 20, no. 3 (Fall/Winter 1994/1995); Ted Jones, President of the California-American Water Company, in California-American Water Company, *Change of Organization for the Santa Margarita Water District,* a report prepared for the Local Agency Formation Commission (January 16, 1995); J. James Barr, Vice President and Treasurer, American Water Works Company in *NAWC Water* (Summer 1989): 14-15.

The apparent consensus on privatization may fade. One possible area of departure is between investor-owned water utilities and the private technical and engineering firms with which they compete for service contracts. Private contractors do not necessarily accept the public utility paradigm as the defining paradigm for utility service, or the necessity of utility regulation.

Political leaders have embraced the privatization agenda, either because they believe in privatization or because it is in their political interest, or both. Regardless of their motives, presidents, governors, and mayors; congresses, legislatures, and city councils; and federal and state regulatory agencies are taking measures to translate the agenda into public policy. The manifestations of a more favorable climate for privatization can be seen in executive orders, legislation, and regulatory pronouncements that will alter the structural character of the water and wastewater industries in indelible ways.

Issues for Regulators

As illustrated in table 1-2, alternative methods of providing services suggest alternative methods of consumer protection. With competitive markets, consumers have choices; they can "take their business elsewhere." With monopoly services, other protections are needed. If a utility is publicly owned, consumers are protected through government ownership and operation and can express their preferences through the local political process. If a utility is privately owned, and sometimes when it is publicly owned, consumers are protected through state economic regulation. Some variations of privatization seem to fall through the cracks of this generalized and familiar typology, raising some fundamental public policy issues.

In the domestic privatization literature, economic regulation is rarely addressed or it is assumed away. The idea of government oversight seems antithetical to the principles of privatization, namely markets and competition. Regulation, after all, is an imperfect substitute for competition; regulation is supposed to be implemented only when markets fail.

TABLE 1-2
GENERALIZED METHODS OF SERVICE PROVISION AND CONSUMER PROTECTION

Method of Service Provision	Principal Method of Consumer Protection
Competitive markets	Consumer choice
Publicly owned monopolies	Government ownership and operation
Privately owned monopolies	State economic regulation

Source: Authors' construct.

Advocates of privatization tend to deny the possibility of market failure, and therefore the possible need for regulation. In reality, however, the markets for water and wastewater services are immature. Vigorous competition is not occurring in many areas and the potential for the use and abuse of monopoly power is ever present. Moreover, the denial of regulation denies the possibility that some of the performance advantages of privately owned utilities may have as much to do with regulation as with ownership form.

Certainly when utility monopolies are involved in privatization agreements, state regulators are interested in the consequences. Regulators have a variety of tools that can affect the privatization process; some have very specific authority in this area. Despite the rhetoric, regulation does not always act as a barrier to privatization and competition in the water and wastewater industries or elsewhere. Regulators across the states have ushered in competition when feasible and when ratepayer interests are well served.[26] Some emerging regulatory policies (such as acquisition adjustments) can be interpreted as pro-privatization.

A privatization trend, if it continues to materialize, could have a substantial effect on the state commissions responsible for overseeing the economic behavior and accountability of

[26] Increasingly competitive and deregulated telecommunications services provide the best examples.

utility monopolies. Increased privatization activity by jurisdictional utilities could affect commission workloads in terms of the number, scope, and complexity of regulatory proceedings. The opportunities for commission oversight may shift and contract or expand. The effects of expanded privatization could be especially interesting in the few states that presently have no economic regulation of water or wastewater utilities.[27]

The global experience in privatization tells a somewhat different story. With the privatization of monopolistic, state-owned enterprises in Europe and Latin America came the institutionalization of new regulatory regimes (such as the price cap system in Great Britain). The commissions may need to stay apprised of potential global and national trends in this area as a means of understanding the changing water and wastewater industries, particularly as these structural changes ultimately may affect regulatory roles and responsibilities.

Research Questions

Despite its political popularity, privatization is not necessarily fully understood in terms of potential implications for individual utilities, utility industries as a whole, or utility regulation. An ongoing research need exists on the implications of privatizing water and wastewater utility services, particularly from an economic regulatory perspective. Regulators seem to have very little information on the nature and extent of privatization activity in their states because much of this activity falls outside the realm of utility regulation.

This research provides regulators and others with an overview of privatization concepts and issues. The report at least touches upon several key research questions:

- How are the water and wastewater industries currently structured in terms of public and private ownership?
- What are the key differences and similarities between publicly and privately owned water and wastewater utilities?
- What are the advantages or disadvantages of privatization in terms of institutional organization, economic efficiency, and other criteria?

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[27] Economic regulation of water utilities is nonexistent in Georgia, Minnesota, North Dakota, South Dakota, and Washington, D.C.

- What are the trends in privatization or municipalization of water and wastewater service, both globally and in the United States?
- How might privatization affect the investor-owned water and wastewater utilities in the United States?
- What are the potential incentives (such as acquisition adjustments) or disincentives (such as taxation policies) to privatization?
- How might privatization affect U.S. regulatory regimes in terms of adding to the number of jurisdictional utilities and the responsibilities of state regulatory agencies?
- What are the advantages or disadvantages of coexisting private and public ownership arrangements (and competition among them) for the water and wastewater industries in terms of meeting public policy goals?
- How might state public utility regulation be restructured in response to the issues and demands of privatization?

Scope of the Report

The subject of privatization is very broad in scope, even when confined to particular sectors of the economy. The focus of this study mainly is on regulatory implications, but a spectrum of issues is presented. Chapter 2 of this report provides an overview of the arguments and evidence related to ownership form. In chapter 3, the decision to privatize and basic options for water and wastewater utilities are described. Chapter 4 provides an overview of thirty case studies of water and wastewater utility privatization and five cases of water system municipalization. Barriers to and incentives for privatization are discussed in chapter 5. The role of economic regulation in utility privatization is the subject of chapter 6. Finally, global privatization and the emergence of alternative regulatory regimes are contemplated in chapter 7. The appendices to the report provide additional reference material, including detailed accounts of the cases, state-by-state jurisdiction, statutes and regulations, and an annotated bibliography.

CHAPTER 2

PUBLIC VERSUS PRIVATE: ARGUMENTS AND EVIDENCE

The water and wastewater utility industries in the United States have evolved in many ways that are distinct from the evolution of the other major utility industries (namely, electricity, natural gas, and telecommunications providers). All public utilities have certain economic and structural characteristics in common. For example, public utilities typically demonstrate substantial economies of scale (that is, declining unit costs of production). Most also are considered to be "vested with a public interest," meaning that their performance carries a certain societal importance. Water and wastewater utilities certainly have these characteristics. In fact, they often are considered closer to the model of "pure monopoly" than the other utilities.

Since their earliest evolution, water supply and wastewater treatment always have enjoyed a degree of monopoly status. Even laissez-faire philosopher John Stewart Mill, writing in 1851, recognized that water supply had natural monopoly characteristics.[1] Thus, despite his dislike of collective enterprise and strong preference for competitive markets, Mill recommended the creation of London's public water authority. Although Mill could not have foreseen the eventual divestiture of the British water authorities, he certainly would have applauded these developments.

Traditionally, public utility services were not considered competitive. However, for a variety of technological and economic reasons, long-held assumptions about vertically integrated utility monopolies are being challenged. Competition is on the rise in virtually every utility sector. Except for the local distribution function, the options for providing utility services are expanding. Although water and wastewater utilities have the appearance of being

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[1] Pedro Schwartz (1966) as summarized in John D. Donahue, *The Privatization Decision* (New York: Basic Books, 1989), 74.

genuine (if not natural) utility monopolies in terms of substantial fixed costs and economies of scale, they too are subject to the forces of competition.

Importantly, *monopoly* is a characteristic that is distinct from *ownership.* Monopolies, in other words, can be publicly or privately owned. As seen in table 2-1, the historical evolution of water supply suggests that in the industry's infancy, the private sector played a significant role. In fact, many large municipal water systems in the United States have their origins in the private sector; the New York City system, for example, began as an enterprise of the Chase Manhattan Company.[2]

The U.S. Water Industry

As of the early 1990s, a population of 241 million people in the United States (80 million households) were served by 57,477 community water systems.[3] A fundamental structural characteristic of the water supply industry is that a large number of small systems serve a small percentage of the population, and a small number of large systems serve a large percentage of the population. Numerically, water systems serving 3,300 or fewer customers account for 87 percent of all water systems, but these systems supply water to only 11 percent of the population served. Systems serving communities of 100,000 or more in population account for only .5 percent of all water systems, but about 44 percent of the population served.

A detailed survey of the nation's water system, summarized in table 2-2, characterized 45.5 percent as publicly owned (local or municipal government, federal government, and on native American land), 28.0 percent as privately owned (investor-owned, homeowners'

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[2] Donald L. Correll, "Flexibility and Imagination: Keys to Expansion in Today's U.S. Water Industry," a paper presented at the Strategic Research Institute Conference on Public-Private Partnerships, New York, March 29, 1994, 1.

[3] Federal Reporting Data System (FRDS) as reported in U.S. Environmental Protection Agency, *Technical and Economic Capacity of States and Public Water Systems to Implement Drinking Water Regulations: Report to Congress* (Washington, DC: U.S. Environmental Protection Agency, 1993).

TABLE 2-1
OWNERSHIP OF WATER WORKS
IN THE UNITED STATES:
1800 TO 1896

Year	Public	Private	Total	Percent Private
1800	1	15	16	93.7
1805	2	21	23	91.3
1810	5	21	26	80.8
1815	5	21	26	80.8
1820	5	25	30	83.4
1825	5	27	32	84.4
1830	9	35	44	79.5
1835	15	39	54	72.2
1840	23	41	64	64.1
1845	27	43	70	61.4
1850	33	50	83	60.3
1855	48	58	106	54.7
1860	57	79	136	58.1
1865	68	94	162	58.0
1870	116	127	243	52.3
1875	227	195	422	46.2
1880	293	305	598	51.0
1885	447	566	1,013	55.9
1890	806	1,072	1,878	57.1
1896	1,690	1,489	3,196*	46.8

Source: M. N. Baker, "Water-Works," in Edward W. Bemis, ed., *Municipal Monopolies* (New York: Thomas Crowell & Company, 1899). * Includes 12 of joint and 5 of unknown ownership.

TABLE 2-2
ESTIMATED COMMUNITY WATER SYSTEMS
BY OWNERSHIP (1993)

System Ownership	Systems Serving <3,300 population		Systems Serving >3,300 population		Total Water Systems	
	Number	Percent	Number	Percent	Number	Percent
Public	18,105	31.5	8,047	14.0	26,152	45.5
Private	14,542	25.3	1,552	2.7	16,094	28.0
Ancillary	15,231	26.5	0	.0	15,231	26.5
Totals	47,821	83.2	9,656	16.8	57,477	100.0

Source: Authors' construct based on the U.S. Environmental Protection Agency's *Federal Report Data Service* (printout for August 1993), and Immerman.

association or subdivision, and other forms), and 26.5 percent as ancillary (mobile home parks, institutions, schools, hospitals, and other forms).[4] Most of the larger water systems (about 84 percent of systems serving more than 3,300 population) are publicly owned. The distribution of smaller systems is a relatively even mixture of ownership forms (public, private, and ancillary).

[4] Frederick W. Immerman, *Final Descriptive Summary: 1986 Survey of Community Water Systems* (Washington, DC: Office of Drinking Water, U.S. Environmental Protection Agency, 1987), table 2-2.

Private or investor-owned utilities serve a total of about 33 million people, although 22 million are served by the 300 largest companies.[5] The presence of the investor-owned water industry is concentrated in the regions east of the Mississippi river, although private activity in the west and southwest is significant as well. Investor-owned water utilities serve populations of more than 300,000 in California, Connecticut, Florida, Illinois, Indiana, Louisiana, Missouri, New Jersey, New York, Ohio, Pennsylvania, and West Virginia.[6] Some of the larger cities served by investor-owned systems are Bridgeport, Connecticut; Peoria, Illinois; Indianapolis, Indiana; Lexington, Kentucky; Baton Rouge, Louisiana; Hackensack, New Jersey; Chattanooga, Tennessee; San Jose, California; and Charleston, West Virginia.

Not All Small

According to Price Waterhouse (1994), the major investor-owned water utilities in the United States, ranked according to revenues in millions, were:

- American Water Works Company ($718)
- Pennsylvania Enterprises ($207)
- United Water Resources ($200)
- California Water Service Company ($152)
- General Waterworks Corporation ($125)
- Aquarion Company ($107)
- Philadelphia Suburban Corporation ($101)
- San Jose Water Corporation ($95)
- Consumers Water Company ($89)
- Indianapolis Water Company ($82)

The presence of private ownership in the wastewater industry is far more limited. The state public utility commissions report regulating only about 1,300 investor-owned wastewater systems in 28 states. Most are very small systems. The prevalence of public ownership can be explained by a variety of factors. First, the provision of sanitary services is among the most traditional municipal services. Second, municipal wastewater systems historically enjoyed substantial amounts of federal support. Finally, wastewater treatment may not be

[5] James B. Groff, "Remarks," a presentation at the SRI Conference on Public-Private Partnerships, New York City, March 29, 1994.

[6] National Association of Water Companies, "Customers & Population Served by Members of the National Association of Water Companies," (handout, approximately 1994).

perceived as profitable as water supply or other environmental services because of environmental mandates, demand patterns, and other characteristics.

Despite the limited presence of investor-owned wastewater utilities, however, municipal wastewater treatment is attracting substantial private-sector involvement in the form of service contracts (as discussed in chapters 3 and 4). In fact, some of the leading examples of privatization come from the wastewater sector.

Structural Change

The fragmented and pluralistic nature of the U.S. water and wastewater industries, and the presumption of substantial inefficiencies, has led to considerable attention to the possibility of structural change. Structural change in the water and wastewater industries can be understood in terms of two major dimensions, consolidation and ownership. Consolidation is advocated to the extent that the viability and efficiency of the water and wastewater utility industries can be improved through economies of scale. With so many small systems, the opportunities for consolidation seem bountiful.

Ownership has always been considered an important dimension of industry structure. Ownership structure affects utility performance largely because the incentive systems that guide performance vary according to ownership. Publicly and privately owned utilities have different tools at their disposal to finance water utility systems. Each ownership form, then, offers certain advantages or disadvantages in a given situation. In general, the interest in privatization seems to be growing at a faster pace than the interest in expanding public ownership. Nonetheless, public ownership should not be entirely ruled out as a structural option to improve the financial viability of some water or wastewater utilities.

Privatization is structural in nature when it involves a transfer of ownership. However, many privatization options do not involve ownership changes. The burgeoning number of contractual arrangements indicates that the nonstructural form of privatization is significant. Taken together, the structural and nonstructural changes in the water and wastewater industries could have dramatic effects.

The Ownership Argument

The polarization of views about public versus private ownership can be striking. In the past few years, the emergence of the concept of "public-private partnerships," and a recognition of their many manifestations, have helped bridge the gap between the public and private ownership models. Nevertheless, strong opinions can still be found on both sides of the ownership argument. These viewpoints are no less defined for the water and wastewater sectors than they are for other sectors of the economy.

The Argument for Private Ownership

The privatization literature is as much a statement about the perceived shortcomings of governmental involvement as it is about the benefits of private involvement. Privatization proponents frequently criticize publicly owned utilities essentially for being "too governmental." For example, public entities are criticized for using lengthy bureaucratic procurement practices, so that purchased products may be obsolete by the time they are delivered to the utility. These practices may become more obviously problematic as technologies and regulatory requirements change more rapidly. More generally, municipal utilities are criticized for planning, financial, and ratemaking decisions that are more politicized and volatile.

In sum, privatization advocates believe that, in comparison to privately owned utilities, publicly owned utilities:[7]

- Experience more cost overruns during construction projects.
- Postpone necessary infrastructure improvements.
- Tend to overcapitalize, even more so than regulated private utilities.
- Tend to overutilize debt, due to artificially low financing costs.

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[7] Based in part on "Comparing the Efficiency of Private and Public Production--29 Case Studies," *NAWC Water* (Summer 1989): 35.

- Demonstrate higher production and operating costs.
- Are less efficient in their procurement and scheduling practices.
- Adopt cost-saving devices and innovation more slowly, if at all.
- Provide utility managers longer periods of tenure.
- Are more risky and realize lower and more variable returns.
- Provide subsidies to or receive subsidies from other municipal operations.
- Set rates further from actual costs and with less regard for the marginal cost associated with meeting peak demand.
- Favor voters over nonvoters, business over residential users, and organized over nonorganized political groups in ratemaking.

According to proponents, private involvement in the provision of water and wastewater services presents "a host of advantages."[8] Under a privatization arrangement, the private firm has the potentially profitable opportunity of owning and operating a water system while the local government has the opportunity of having cost-effective delivery of an essential service.[9] Privately owned utilities are expected to perform more efficiently and effectively than publicly owned utilities. The most frequently cited advantages of private involvement are construction and operational savings, improved regulatory compliance and risk management, reduced politics and bureaucracy, improved procurement and scheduling practices, access to expert personnel, tax benefits and cash flow to the local government, debt-capacity benefits, and access to private capital.

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[8] David Seader, Privatization: An Emerging Management and Financing Trend," *Water Engineering and Management* (March 1989): 44.

[9] George A. Raftelis, "Legal Issues for States Related to Privatization" a paper presented at the U.S. Environmental Protection Agency's National Workshop on Financing Strong State Water Programs, Denver, Colorado, April 1989.

Privatization provides an alternative method of financing water supply and wastewater treatment facilities, especially for financially strapped utilities. Moreover, privatization literally can allow cities to "cash in" on their utility infrastructures. According to privatization advocate David Haarmeyer:

> The significant financial capital tied up in the municipal water-supply assets suggest that many financially constrained cities may want to transform their physical capital to financial capital. By waking up this "sleeping equity," and wisely investing the proceeds, municipalities could achieve both improved water services and much-needed cash to fund essential public services.[10]

Of course, Haarmeyer makes several assumptions that can be challenged. First, he may be overestimating the equity value of an aging infrastructure that is subject to increasingly stringent regulations and regulatory risk. Second, he assumes a much larger market for water systems than probably exists. Third, the transaction he describes potentially results in cross-subsidization and taxpayer inequity. The taxpayers who funded the municipal water system will not necessarily benefit from the sale of the system; if the system truly is deteriorated, these same taxpayers probably will face a rate increase to pay for needed improvements. Finally, some will argue that municipal utility assets already reflect a wise investment that should not be sold off for a one-time windfall. This is not to say that full privatization is not a viable or beneficial option. However, as a matter of public policy, it requires an objective and critical evaluation prior to implementation.

Perceptions about the benefits of privatization vary with the form of privatization. In general, many municipalities view asset sales as less advantageous to their interests than other forms of partnerships (such as operations contracts). However, contracting for services can be controversial as well. Arguments favoring and opposing privatization through contracting are provided in table 2-3.

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[10] David Haarmeyer, *Privatizing Infrastructure: Options for Municipal Water-Supply Systems* (Los Angeles, CA: The Reason Foundation, 1992), 33.

TABLE 2-3
OPPOSING VIEWS OF PRIVATIZATION THROUGH CONTRACTING

ARGUMENTS FAVORING CONTRACTING	ARGUMENTS AGAINST CONTRACTING
Contracting out is more efficient because: it harnesses competitive forces and brings the pressure of the marketplace to bear on inefficiency producers; it permits better management, free of most of the distracting influences that are characteristics of overtly political organizations; and the costs and benefits of managerial decisions are felt more directly by the decisionmaker, whose own rewards often are directly at stake. Contracting out makes it possible for government to take advantage of specialized skills that are lacking in its own workforce; it overcomes obsolete salary limitations and antiquated civil service restrictions. Contracting allows flexibility in adjusting the size of a program up or down in response to changing demand and changing availability of funds. Contracting permits a quicker response to new needs and facilitates experimentation with new programs. Contracting is a way of avoiding large capital outlays; it spreads costs over time at a relatively constant and predictable level. Contracting permits economies of scale regardless of the scale of the government entity involved.	Contracting is ultimately more expensive because of: corrupt practices in awarding contracts; high profits, whereas government is nonprofit; the cost of layoffs and unemployment for government workers; the shortage of qualified suppliers and therefore the lack of competition; the cost of managing the contract and monitoring contractor performance; the low marginal cost of expanding government service; cost-plus-fixed-fee provisions in some contracts, which provide no incentive for efficiency; and the absence of effective competition in "follow-on" contracts, after government gets out of the business and is at the mercy of the contractor. Contracting nullifies the basic principle of merit employment and subverts laws regarding veterans preference in government employment; it is demoralizing to employees, deprives government of the skills it needs in-house, and therefore is fundamentally debilitating of government capability. Contracting limits the flexibility of government in responding to emergencies. Contracting fosters an undesirable dependence on contractors and leaves the public vulnerable to strikes and slowdowns by the contractor's personnel and to bankruptcy of the firm.

TABLE 2-3 (continued)

ARGUMENTS FAVORING CONTRACTING	ARGUMENTS AGAINST CONTRACTING
Contracting a portion of the work offers a yardstick for comparing costs. Contracting fosters good management because the cost of service is highly visible in the price of the contract, whereas the cost of government service is usually obscured. Contracting can reduce dependence on a single supplier (a government monopoly) and so lessens the vulnerability of the service to strikes, slowdowns, and inept leadership. Contracting creates opportunities for entrepreneurs from minority groups. Contracting limits the size of government, at least in terms of the number of employees. Contracting spurs private-sector research on innovative ways to satisfy society's needs.	Contracting depends on adequately written contracts, which are difficult to draw up, and as a result there is a loss of government accountability and control. Contacting limits the opportunity to realize economies of scale. Entrusting services to private organizations increases the political power of the latter and creates a lobby for more government spending. Contracting will result in disproportional job losses among members of minority communities, many of whom are government employees. Contracting causes a loss of autonomy of the contractor (e.g., co-opting a private, nonprofit social service agency) and thereby decrease the latter's effectiveness in the long run by muting its role as critic and social conscience.

Source: Adapted from E. S. Savas, *Privatization: The Key to Better Government* (Chatham, NJ: Chatham House Publishers, 1987), 109-111.

The Argument for Public Ownership

The argument for public ownership is grounded in a belief in the value of public service and public stewardship for valued resources. Public ownership maintains public control over essential services and the infrastructure needed to provide those services. Arguably, no public utility services are as essential as water and wastewater services. Water and wastewater services are essential for public health and sanitation. Water supply has the added importance of fire protection. When these services are unavailable (as in some parts of the developing world) or disrupted (as during natural disasters) their true value is far more apparent.

Proponents of public ownership believe that facilities built with public funds should be entrusted only to public entities. Local officials can maintain control over system growth through annexation. For many local officials, control over ratemaking is equally important. When cities are served by investor-owned utilities, ratemaking becomes a function of the state, and local officials become intervenors rather than decisionmakers. Although some municipal ratemaking practices may not comport with prevailing regulatory practices, municipal ownership tends to enhance rate, revenue, and financial stability.

The Grass Looks Greener

Frustration with rising costs and rates virtually everywhere has resulted in the dilemma that "the grass always looks greener on the other side." While some cities are looking to privatize, others are contemplating purchasing (or municipalizing) the water or wastewater utilities that serve their residents. Some cities have used (or tried to use) their powers of eminent domain to condemn and takeover the operations of local private water systems.

Expanding public ownership may have less academic appeal than privatization, but it can help water systems achieve economies of scale and broaden the customer base that must support rising costs. Local governments can use annexation and intergovernmental

agreements to build regional water systems and achieve significant economies of scale.[11] Many of the regionalization case studies in the water sector involve publicly owned utilities.[12] According to a study by the U.S. Environmental Protection Agency (EPA), acquisitions resulting in larger *publicly* owned systems can be attractive for a variety of reasons.[13] Public ownership does not preclude the formation of public-private partnerships for specific capital projects or for operational services.

From an institutional perspective, public ownership may offer certain advantages. It may be easier for the federal government and the states to provide acquisition incentives to local governments, as compared to privately owned utilities. Public ownership also may promote more comprehensive water resource planning. California, for example, has used special water districts for planning and coordination.[14]

From a practical standpoint, public ownership may be the *only* realistic solution for the viability problems of many very small water and wastewater systems. Many systems simply are too small to be profitable, and their customers cannot afford to pay the high rates needed to support the true cost of the system. Many are physically isolated from other systems, making physical interconnection very difficult. One regulatory staff member discourages acquisitions of nonviable small systems by investor-owned systems in favor of municipalization.[15] In fact, he suggests that "many small water systems need to be treated as welfare activities" and funded through tax revenues.

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[11] Robert M. Clark, "Minimizing Water Supply Costs: Regional and Management Options," in *AWWA Seminar Proceedings: Small Water System Problems* (Denver, CO: American Water Works Association, 1982), 65-82.

[12] SMC Martin, Inc., *Regionalization Options for Small Water Systems* (Washington, DC: U.S. Environmental Protection Agency, 1983), II-2.

[13] U.S. Environmental Protection Agency, *Improving the Viability of Existing Small Drinking Water Systems* (Washington, DC: U.S. Environmental Protection Agency, 1990), 16-7.

[14] William R. Smith, "Regional Allocation of Water Resources," *American Water Works Association Journal* 73 (May 1981): 226-31.

[15] Fred L. Curry, "Public-Private Partnerships," *NAWC Water* (Summer 1994): 16-19.

Of course, privatization theory would suggest that even welfare systems can be funded with tax dollars and managed through private service arrangements. The smallest water and wastewater systems may require a combination of tax dollars and user fees for their support (at least until a better alternative can be found). For every nonviable system, every effort should be made to find the solution that is efficient, effective, and appropriate. In many cases, the solution may be public ownership.

Research on the Relevance of Ownership

The literature on privatization is replete with hypotheses about the consequences of public versus private ownership. Although each proposition can be subjected to empirical proof, the hypotheses themselves are more abundant than conclusive research findings about their validity.

Statistical Research Findings

As illustrated in table 2-4, public and private water utilities exhibit different characteristics along a number of financial dimensions. These observations are somewhat dated, but are based on one of the few systematic surveys of the water industry. Explaining the differences revealed in the data can be tricky. In the first place, the data themselves are not necessarily reliable. In the second place, meaningful comparisons require researchers to control for a variety of potentially significant factors (such as system size and cost characteristics).

Prices Compared

The average amount of revenue per 1,000 gallons sold by privately owned water utilities is $1.61, compared to $1.16 for publicly owned water utilities (S. Onyeji Chibot, *Economic Effects of Ownership in the Water Supply Industry,* 1990).

Numerous statistical analyses of public versus private ownership have been conducted. A few have focused on revenue and rate differences between public and private water utilities. A study comparing revenues of public and private water utilities found that mean revenues for

TABLE 2-4
SELECTED COMPARATIVE DATA ON PUBLICLY AND PRIVATELY OWNED UTILITIES (1986)

Measure	Publicly Owned Systems	Privately Owned Systems
Average operating revenue	$882,400	$485,000
Percent having other sources of revenues	8.3%	6.3%
Average amount of other revenues	$53,900	$4,900
Percent receiving revenues from municipal fund	12.8%	na
Average amount of municipal fund revenues	$18,700	na
Residential revenues per 1,000 gallons delivered	$1.93	$2.71
Average revenues per 1,000 gallons delivered for all sales	$1.70	$2.49
Average operating expense per 1,000 gallons	$1.71	$2.26
Operating margin (operating revenues less expenses, divided by revenues)	-5.3%	9.1%

Source: Frederick W. Immerman, *Final Descriptive Summary: 1986 Survey of Community Water Systems* (Washington, DC: U.S. Environmental Protection Agency, 1987).

privately owned water utilities were nearly forty percent higher.[16] Both interest payments and ownership structure were statistically significant in explaining the difference. Privately owned utilities were more likely to charge for the full cost of service (capital expenditures, depreciation, billing, administration, and other services), while publicly owned utilities were more likely to set rates according to average costs. Naturally, rates are higher for utilities that recover capital costs through rates. The author concluded that public utilities have lower rates partly because of the prevailing influence of political and administrative factors.

[16] S. Chibot Onyeji, *Economic Effects of Ownership in the Water Supply Industry: A Quantitative Analysis* (Ph.D. dissertation for the Urban and Regional Planning Department, Texas A&M University, 1990).

Much of the literature, however, focuses not on revenues and rates but on more direct measures of economic efficiency. The influence of ownership and competitions has been intensely studied for several sectors of the economy, including water utilities, electric utilities, refuse collection, health services, airlines, railroads, nonrail transit, financial institutions, fire services, and various industrial enterprises.[17] Many of these studies use econometric techniques to compare the performance of publicly and privately owned enterprises, controlling statistically for variables other than ownership. Typically, cost functions are used to estimate allocative efficiency. A few studies have explored differences in technological efficiency. The statistical methods used in these analyses have become rather sophisticated, leading to heated debates over the appropriateness of alternative estimation methods.[18] However, in some cases the complexity of the statistical technique may outstrip the validity and reliability of the data to which they are applied.

As can be seen in the summary provided in table 2-5, the evidence about the efficiency of public v. private water utilities is very mixed. A number of studies are inconclusive about the relevance of ownership form because of ambiguous or statistically insignificant findings. In fact, a recent study observed that neither public nor private utilities are particularly efficient.[19] Apparently, water utilities employ either too many inputs relative to the water they provide or they could provide more water relative to the inputs they employ. According to the authors:

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[17] For a general summary of numerous studies, see Aidan R. Vining and Anthony E. Boardman, "Ownership versus Competition: Efficiency in Public Enterprise," *Public Choice* 73 (1992): 205-39.

[18] See Susan Feigenbaum and Ronald Teeples, "Public versus Private Water Delivery: A Hedonic Cost Approach," *Review of Economics and Statistics* 65 (1983): 672-78; Robert A. McGuire and Robert Ohsfeldt, "Public versus Private Water Delivery: A Critical Analysis of a Hedonic Cost Approach," *Public Finance Quarterly* 14, no. 3 (July 1986): 339-50; and Ronald Teeples, Susan Feigenbaum, and David Glyer, "Public versus Private Water Delivery: Cost Comparisons," *Public Finance Quarterly* 14, no. 3 (July 1986): 351-66.

[19] David K. Lambert, Dimo Dichev, and Kambiz Raffiee, "Ownership and Sources of Inefficiency in the Provision of Water Services," *Water Resources Research* 29, no. 6 (June 1993): 1573-78.

TABLE 2-5
SELECTED ECONOMETRIC RESEARCH COMPARING
THE EFFICIENCY OF PUBLIC AND PRIVATE WATER UTILITIES

Authors	Year	Research Finding
Mann and Mikesell	1971 and 1976	Public more efficient
Hausman	1976	Private more efficient
Morgan	1977	Private more efficient
Crain and Zardkoohi	1978 and 1980	Private more efficient
Bruggink	1982	Public more efficient
Lindsay	1984	No significant difference or ambiguous results
Boland	1983	Private more efficient
Feigenbaum and Teeples	1983	No significant difference or ambiguous results
Teeples, Feigenbaum, and Glyer	1986	No significant difference or ambiguous results
Byrnes, Grosskopf, and Hayes	1986	No significant difference or ambiguous results
Teeples and Glyer	1987	No significant difference or ambiguous results
Lambert, Dichev, and Raffiee	1993	Public more efficient
Bhattacharyya, Parker, and Raffiee	1994	Public more efficient

Source: John D. Donahue, *The Privatization Decision: Public Ends, Private Means* (New York, Basic Books, 1989), 75; Aidan R. Vining and Anthony E. Boardman, "Ownership versus Competition: Efficiency in Public Enterprise," *Public Choice* 73 (1992): 214; and authors' construct.

> Although calls for the privatization of publicly owned service providers is currently popular, our evidence illustrates that private ownership does not guarantee greater efficiencies in service provision. On the contrary, the technical and overall efficiency of the privately owned firms within the sample was lower than efficiency measures of the publicly owned utilities. . . . With no threat of competition, and perhaps insufficient oversight, managers of privately owned utilities may not have the incentive to increase the technical efficiency associated with service provision.[20]

A related study adds that both public and private utilities also exhibit a significant degree of price inefficiency and excessive capitalization.[21] Again, private utilities are found to exhibit less technical efficiency and less efficiency use of variable inputs (such as labor, energy, and materials). However, private utilities are found to be "much more consistent in their degree of inefficiency," while public utilities exhibit a wider range from best to worst practices.[22]

It really is no wonder that researchers find it difficult to deliver conclusive "proof" that one ownership form is more efficient than another:

> There has been ample room for ambiguity, since water utilities vary along dimensions aside from organizational form. They differ by factors such as size and dispersion of the population served; in the scale and age of their capital equipment; in costs paid for labor, machinery, water, energy, and finance; in the quality of available water supplies; and in how much they treat the water before pumping it to customers. Since some of these features might differ systematically as between public and private water utilities, it would likely be misleading simply to divide the

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[20] Lambert, Dichev, and Raffiee, "Ownership and Sources of Inefficiency," 1577.

[21] Arunava Bhattacharyya, Elliott Parker, and Kambiz Raffiee, "An Examination of the Effect of Ownership on the Relative Efficiency of Public and Private Water Utilities," *Land Economics* (May 1994): 197-209.

[22] Ibid., 206.

> water suppliers into "public" and "private," to find the two average costs, and to attribute whatever difference there is to ownership effects.[23]

The comparison of public to private ownership sometimes is made without acknowledging the monopoly status of water and wastewater utilities. Another potentially important dimension that usually is overlooked in empirical comparisons is the nature of economic control over utility monopolies, including the presence of economic regulation. Cities and states impose various systems of oversight and various standards of performance that may have important consequences for utilities of different ownership forms.

Applied Research Findings

Several conclusions can be drawn from the applied research on water and wastewater privatization as well. This research is conducted mainly by governmental agencies and consultants, and relies heavily on case studies. Although scientific generalizations cannot be made from case studies, similar findings and conclusions across numerous studies can be used to construct general observations. These observations can be grouped into three general areas: trends in privatization, projected savings and benefits, and implementation issues.[24]

Regarding trends in privatization, several important themes have emerged. First, the British model of privatization, which emphasizing private ownership of assets, is not being replicated in the United States. Second, the trend toward wastewater treatment privatization appears to be stronger than the trend toward water supply privatization. Third, many of the larger investor-owned water systems are actively exploring opportunities to purchase or operate nearby municipal systems over the next several years. Fourth, nearly 6,000 wastewater facilities consist of outdated and fully depreciated plants that could be refinanced and updated, possibly with private capital. Fifth, the potential for more activity in the area of

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[23] Donahue, *The Privatization Decision*, 74.

[24] See bibliography for R. V. Anderson (1990: 51), U.S. EPA (1990: 53), Holcombe (1991: 30), Ernst & Young (1993: II-17), Haarmeyer (1994: 51), Raftelis (1993: 96), U.S. EPA (1989: 53).

contract operations seems especially strong. Finally, the competition for contracts among investor-owned systems and other vendors is becoming increasingly intense.

Much of the applied literature emphasizes the potential importance of savings and benefits. First, based on the water case studies, privatization can yield construction cost savings of 50 percent and annual operating cost savings of 15-25 percent. Based on the wastewater case studies, privatization can yield construction and operating cost savings of 20-50 percent. Second, private ownership (as compared with public ownership and private operations) does not necessarily offer additional economic advantages. Third, the economic benefits of operation and maintenance contracts have not been well documented and the anticipated savings may not occur. Fourth, savings may not be substantial if costs and risks remain with the public entity, thereby weakening the efficiency incentives for the private contractor. Fifth, broad generalizations about the benefits of privatization cannot be made because each water or wastewater facility, and the environment in which it operates, is unique in many ways.

Finally, implementation issues (particularly barriers to privatization) are raised in most privatization studies. First, tax law changes in 1986 seriously undermined the financial incentive to privately finance and own water supply facilities. Second, cities choosing privatization generally are small in size, have little or no in-house expertise, and have limited or no funding sources. Third, noncompliance with federal and state environmental regulations, coupled with an absence of funding options, can lead small cities into privatization agreements that may not serve them well. Fourth, private firms can take advantage of the inexperience and ignorance of public officials, and may not always deliver promised cost savings. Fifth, many municipal officials demonstrate a strong bias against the privatization option in favor of traditional public ownership. Finally, successful private involvement only occurs after careful planning and early public involvement and support.

Observations

The definitive answer to the perennial question, "Which is better, public or private?" is: *it depends.* Good and bad performers can be found in both the public and private sectors. The factors affecting utility performance are numerous and complex.

Despite the growing literature on privatization, including privatization of the water and wastewater industries, the need for further investigation is clear. The concept of "trends in privatization" is frequently used and infrequently documented. No central database exists on privatization agreements, and no central agency tracks these agreements. This kind of tracking will be very difficult given the proprietary nature of most privatization activities. Many of the so-called trends actually are based on the preponderance of case studies, not actually trend data. Clearly, more systematic evidence would be useful in identifying the extent of privatization activity.

A more general issue concerns the appropriate research design for comparing ownership forms. One theory that has not been rigorously tested is whether a *change* in ownership results in a *change* in technical or economic efficiency. A quasiexperimental research design using an interrupted time series ("before and after") model would be useful in this regard. Anecdotal evidence suggests change itself may be what many communities are after when they seek a different form of ownership for their water systems (that is, change for the sake of change). The empirical evidence suggests that both public and private utilities appear to have significant room for improvement. Therefore, it can be hypothesized that *any* change in ownership will result in improved performance. Otherwise, the change makes little economic sense and must be explained on the basis of political or other reasons. However, subscribing to the view that privately owned firms are more strongly motivated toward efficiency, it can be hypothesized that a change from public to private ownership will result in a greater efficiency improvement than a change from private to public ownership.

Another area requiring further research, as mentioned above, is the potential role of regulation in affecting utility performance. Most investor-owned utilities and some municipal utilities are commission regulated. However imperfect, economic regulation substitutes for competition, and provides a powerful system of incentives that affects utility behavior and

performance in a variety of ways. It can be hypothesized that jurisdictional utilities will behave more efficiently than comparable nonjurisdictional utilities that are subject neither to competition nor regulation. On the other hand, it has been suggested that regulated utilities cannot behave as efficiently as unregulated private contractors. In the realm of privatization, this kind of comparison would be particularly useful for evaluation purposes.

A research need also exists on how to make public entities, including publicly owned utilities, behave more efficiently as they face increasing costs and other pressures. In cases where privatization is infeasible or undesirable, public officials may still want to discover and implement measures to address some of the possible shortfalls of public ownership and operations. For example, benchmarking and similar techniques can be used to compare performance, evaluate progress over time, and even replicate market conditions. Research can be directed toward potential efficiency improvements within the public agencies that regulate utilities as well.

Finally, although the point has been debated, economic theory suggests that competition may be more important than ownership form in achieving efficiency goals. In keeping with *Reinventing Government*, the real issue may not be public versus private, but competition versus monopoly.[25] Measuring the presence or absence of competition may be the most difficult challenge of all, particularly given the complex structure of the water and wastewater industries, the many varieties of competition that are emerging, and the persistence of substantial monopoly power. If efficiency is the goal of public policy, and competition is the key to efficiency, then the debate over ownership form can be set aside in pursuit of methods to encourage healthy competition for the provision of water and wastewater services. Although a purely free market for providing utility services is an unrealistic expectation, a competitive spirit can be fostered to achieve efficiency improvements.

In sum, no public utility ownership form is perfect. Municipal ownership shields utilities from market forces that might help them perform more efficiently. Investor-owned utilities may not always be sensitive to or able to respond to changing community needs. To

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[25] David Osborne and Ted Gaebler, *Reinventing Government* (Reading, MA: Addison-Wesley, 1992).

some extent, the coexistence of these alternative ownership arrangements provides a healthy form of competition for the water utility industry. Consolidation, whether by public or private firms, is a positive structural change for the water and wastewater industries. In the long term, privatization may yield additional efficiencies.

CHAPTER 3

PRIVATIZATION OPTIONS

Announcements in the "Business News" section of the *American Water Works Association Journal* reflect a possible trend in U.S. privatization activity.[1] In the past few years the number of reported ownership changes and contractual agreements has increased. Either privatization activity is on the rise or it simply has become more newsworthy. By most indicators, privatization activity genuinely is on the rise.

The decision to privatize is complex, but more and more governmental entities are considering this option and weighing the advantages and disadvantages. Decisionmakers are concerned with the implications of privatization for the communities in which they live and lead, more so than with the theories and statistics of the literature. The critical choice is not the simple one defined by the dichotomy between public and private ownership. Privatization takes many forms, and the permutations involving various ownership and operations possibilities are many.

As noted earlier, the growing interest in privatization is closely linked to the twin pressures on local governments to comply with environmental standards and raise the funds to do so. As illustrated in figure 3-1, municipal governments that want to provide environmental services have only so many options at their disposal. Many of these options are increasingly constrained by fiscal and political realities. Despite certain barriers, expanded private involvement appears to be less constrained that other fiscal choices. Cities can explore a variety of options with a variety of potential private-sector partners.

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[1] "Business News," *American Water Works Association Journal* (various issues).

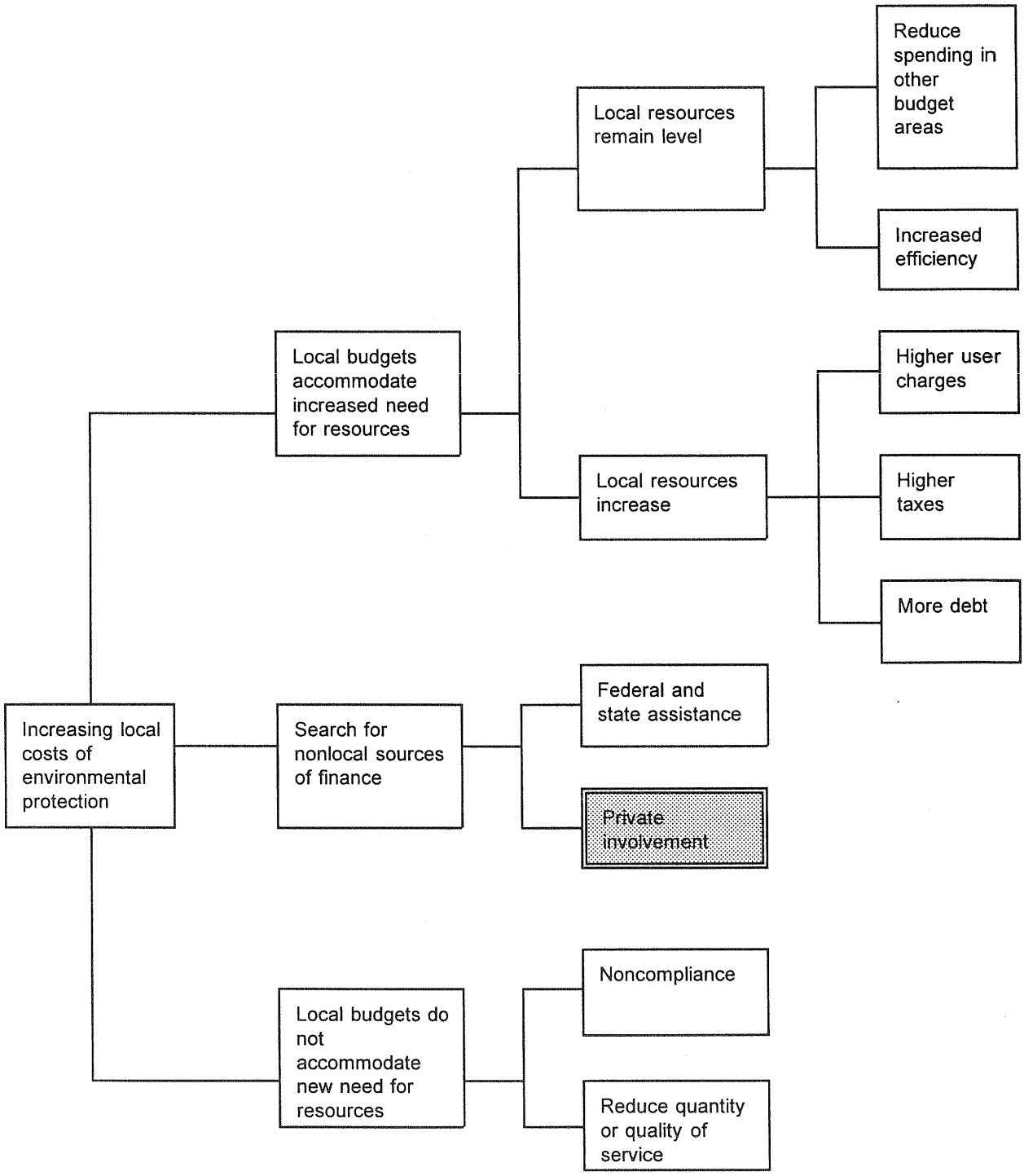

Figure 3-1. Local governmental responses to the rising cost of environmental protection, from U.S. Environmental Protection Agency, *A Preliminary Analysis of the Public Costs of Environmental Protection: 1981-2000* (Washington, DC: U.S. Environmental Protection Agency, 1990), 2.

The Privatizers

The apparently growing demand for private-sector involvement in the water and wastewater industries has led to the emergence of an identifiable group of privatizers. The privatizers are investor-owned utilities and other private interests actively marketing an expanded role in providing water and wastewater services. In short, the privatizers are the willing providers in the privatization market, seeking to capitalize (so to speak) on the apparently abundant opportunities to profit and prosper.

The Privatizers

A few of the more visible privatizers in the water and wastewater sectors are:

- Professional Services Group and Metcalf & Eddy Services, both of which are controlled by Compaignie Générale des Eaux.
- Wheelabrator EOS, which is allied with Waste Management, Inc.
- CH^2M Hill's Operations Management International.
- JMM Operational Services, which is half owned by Lyonnaise des Eaux.
- Williams & Works, which is owned by Environmental Science.

U.S. investor-owned water utilities and their subsidiaries have become increasingly energetic privatizers. According to a Price Waterhouse analysis, ninety percent of the investor-owned water utilities surveyed disclosed "that they have either closed transactions with, or have presented proposals to provide services to, municipalities."[2] The companies also reported that the closed transactions had resulted in significant cost savings to the cities entering into these agreements.

Another category of privatizers is comprised of third-party service providers (or private vendors) who enter into contractual arrangements with publicly and privately owned water and wastewater utilities. These unregulated private firms provide contractual services for hundreds of water or wastewater systems throughout the United States. Most are aggressively

[2] Price Waterhouse, *The Public Utility Industry: 1994 Survey of Industry Developments and Financial Reporting* (Price Waterhouse, 1994).

marketing their engineering and managerial expertise. In some cases, these privatizers also offer special financing arrangements to the contracting utility or municipality.

The firms engaged in privatization activities are motivated by a desire for corporate growth, as well as profits.[3] The privatizers have exhibited a range of corporate strategies to create new firms, restructure old ones, or merge with allies to compete for contracts. Several of the major privatizers are affiliated with larger utilities or technical firms, some of which are controlled by multinational firms. Access to financial capital clearly gives these large firms advantages over smaller bidders for privatization projects. The globalization of privatization is discussed further in chapter 7. In an increasingly competitive world, of course, not all of the privatizers will survive. The composition of the firms engaged in privatization activity will evolve and change substantially over time.

Privatization through Divestiture

An extreme form of privatization is the absolute divestiture of government-owned utility assets. A complete transfer of ownership occurs when a private entity purchases a municipal utility's assets, assumes the city's franchise and operating certificates, and takes control over all future planning, construction, and operations. The local government is released from responsibility for managing utility operations and complying with regulatory standards. As a privately-owned utility monopoly providing retail service, the operations of the private firm are probably subject to economic regulation by the state.

Several examples of privatization through divestiture can be found in the acquisition activities of the nation's investor-owned water utilities. A few involve purchases of major water systems, such as the acquisition of the Santa Margarita Water District by California-American. Most acquisitions involve purchases of much smaller systems.

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[3] "Deep Pocket Players Line Up for Another Round of Wastewater Privatizations," *Public Works Financing* 75 (June, 1994): 13.

Although unrealistic, the privatization of all publicly owned systems has been advocated.[4] The barriers to divestiture generally are more substantial than the barriers to other forms of privatization. Many local governments are not necessarily interested in selling their assets; private firms are not necessarily interested in buying the assets owned by many local governments. Government officials seem to be more interested in exploring opportunities "to partner" with private firms for the purpose of building and/or operating utility facilities. Under some circumstances, the concept of partnerships may be more palatable and more practical than the concept of divestiture.

Public-Private Partnerships

The U.S. Environmental Protection Agency has long advocated the use of public-private partnerships as a means of addressing the rising cost of complying with essential environmental regulations.[5] Partnerships are promoted because the EPA believes their use will help reduce costs, speed project completion, guarantee performance, and preserve jobs.[6] Some common types of partnerships are summarized in table 3-1.

A number of successful public-private partnerships have been documented by the EPA, including projects in Mt. Vernon, Illinois (construction and operation of a wastewater treatment plant); Scottsdale, Arizona (creative financing for drinking water supply); Dowingtown, Pennsylvania (regionalization for upgrading and expanding wastewater treatment facilities); Kerrville, Texas (competitive negotiation for financing wastewater treatment facilities); and Western Carolina Sewer Authority (two-step competitive bidding for

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[4] David L. Haarmeyer, *Privatizing Infrastructure* (Los Angeles: The Reason Foundation, 1993), 33.

[5] U.S. Environmental Protection Agency, *A Preliminary Analysis of the Public Costs of Environmental Protection* (Washington, DC: U.S. Environmental Protection Agency, 1990), 36-7. Public-public and private-private partnerships also are possible, but not generally considered here.

[6] U.S. Environmental Protection Agency, *Public-Private Partnership Case Studies,* 6.

TABLE 3-1
COMMON PUBLIC-PRIVATE PARTNERSHIP OPTIONS

Partnership Option	Description
Acquisition	Public partner sells the facility to private partner resulting in private ownership and operation.
Joint venture	Private partner owns facility in conjunction with public partner.
Concession or build, own, and transfer (BOT)	Private partner builds, owns, and operates the facility. At the end of the specified period, such as 30 years, the facility may be transferred to the public partner for a nominal fee.
Turnkey facility	Private partner designs, constructs, and operates the facility. The public partner retains ownership and generally assumes the financing risk, while the private partner assumes the performance risk for minimum levels of service and/or compliance.
Full-service contract	Public partner contracts with private partner for a fee to operate and maintain the facility. The public partner owns the facility (although it may have been built by the private partner).
Contract operations	Private partner operates and maintains public partner's facilities over the long or short term.
Contract management	Private partner manages and supervises the public partner's personnel.
Operations assistance	Private partner provides transition management or program management to improve effectiveness of public partner's operations.

Source: National Association of Water Companies, "Common Public-Private Partnership Arrangements," (handout, not dated).

wastewater treatment plant construction and operation).[7] Two major privatization experiments in wastewater treatment (in the city of Indianapolis and the Miami Conservancy District in Ohio) are EPA demonstration projects that will be closely monitored and analyzed in depth.

Privatization agreements vary significantly in terms of the scope of the private firm's role.[8] The greater the involvement of a private firm in owning and operating utility facilities, the longer the term of the privatization agreement, and the more conspicuous the appearance of an exclusive franchise, the greater the likelihood that the private firm could be classified as an investor-owned utility (as in the case of divestiture). Build-own-and-operate arrangements can result in the creation of a privately owned utility, particularly if the private entity retains ownership of utility assets and provides retail water or wastewater services. Private utility status may be avoided if the facility provides only wholesale product to the local government. Turnkey (or build-own-and-transfer) arrangements generally avoid private utility status because public ownership of assets is maintained.

If It Quacks Like a Duck...

The greater the involvement of a private firm in owning and operating utility facilities, the longer the term of the privatization agreement, and the more conspicuous the appearance of an exclusive franchise, the greater the likelihood that the private firm could be classified as an investor-owned utility.

According to industry financial consultant George Raftelis, "Privatization is not an all-encompassing panacea for water and wastewater facility financing and construction. Rather, it is one of several approaches to solve the infrastructural problems facing local government utilities."[9] The Wade Miller report on water supply infrastructure identifies four areas where

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[7] U.S. Environmental Protection Agency, *Public-Private Partnerships: A Self-Help Guide,* 5-23.

[8] Michael M. Stump, "Private Operation of U.S. Water Utilities," *American Water Works Association Journal* 78 (February 1986): 49-51. See also, Raftelis, "Legal Issues."

[9] Raftelis, "Legal Issues," 95.

privatization has particular potential: distribution system maintenance, rehabilitation, and general enhancements; privatization of individual system components (for example, wells or other supplies); service contracts for operation and maintenance services; and full scale ownership and operation.[10]

Privatization can help water utilities with the two fundamental types of utility costs: capital and operating. Some partnership agreements can help with both kinds of costs. Cities that need major new water or wastewater facilities can explore options that make use of private capital rather than municipal resources or debt. Cities that want to maintain ownership and control of utility assets, but delegate all or some of their operational functions, can consider service contracts with a qualified privatizer.

Partnerships for Capital Improvements

Water utilities can enter into privatization agreements at three separate stages in the development of a capital facility: (1) prior to the design of the project, (2) after completing the preliminary design, and (3) after completing the final design (but prior to construction).[11] Each approach has unique advantages and disadvantages. For example, the first approach provides the private firm with the opportunity to construct a facility that it views as the most cost-efficient. The second approach can facilitate joint development of the project, so that the interests of both parties are well served. The third approach provides the water utility with maximum control over the design of the project before the private firm begins construction.

Another area where privatization can be used is in the development of joint water projects among two or more utilities.[12] The utilities can enter into an agreement with a

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[10] Wade Miller Associates, Inc., *The Nation's Public Works: Report on Water Supply* (Washington, DC: National Council on Public Works Improvement, 1987), 141.

[11] Garret P. Westerhoff, "An Engineer's View of Privatization: The Chandler Experience," *American Water Works Association Journal* 78 (February 1986): 41-46.

[12] See Ronald D. Hardten, "Developing Joint Water Projects," *American Water Works Association Journal* 76 (April 1984): 131-33.

private firm to develop source of supply, treatment facilities, and possibly distribution networks. By serving more than one community, joint projects can help the utilities share costs and realize economies of scale. Joint projects also facilitate regional water supply planning and environmental management of water resources.

Lease Financing[13]

For utilities willing to surrender some elements of control, especially ownership, leasing has emerged as an alternative technique for financing equipment and facilities for water utilities. For investor-owned utilities, leasing is a means of reducing equipment costs and eliminating construction expenditures. For municipally owned utilities, leasing is a form of privatization, as well as a means of compensating for the reduced availability of federal and state government construction grants. Leasing can be complex, with tax consequences for the lessee (the water utility) and tax benefits for the lessor (the private firm providing the leased good or the lender). The simplest form of leasing is the direct lease.[14] A leveraged lease is a more complicated three-party lease in which the lessor (the owner) acquires financing from a third party (the lender) for the bulk of the cost of the equipment or facility. A third form of leasing involves certificates of participation.[15]

Leasing provides several advantages for the various parties involved. The primary advantage for the lessee (the water utility) is the capability to have equipment or facilities in place more quickly due to fewer obstacles than with conventional financing. In other words, private financing translates into less regulatory oversight, fewer delays in bringing the equipment or facilities on-line, and lower aggregate project costs. The leveraged lease has certain unique advantages. For tax purposes, the lessor owns the equipment or facility and

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[13] Adapted from Janice A. Beecher, Patrick C. Mann, and John D. Stanford, *Meeting Water Utility Revenue Requirements: Financing and Ratemaking Alternatives* (Columbus, OH: The National Regulatory Research Institute, 1993).

[14] American Water Works Association, *Water Rates and Related Charges* (Denver, CO: American Water Works Association, 1986).

[15] Ibid.

thus qualifies for federal tax benefits based on the total equipment or facility cost. The third-party lender receives interest payments that generally exceed those associated with comparable loans. The lessee receives the benefits of lower equipment and facility costs. By transferring a portion of the tax savings linked to equipment purchases and facility construction, the water utility can obtain external financing, thus saving water customers substantial capital costs.

Lease financing has additional advantages.[16] Leasing frees some funds for other purposes and reduces the risk of obsolescence associated with aging equipment. In a regulatory context, lease financing can be viewed as a technique for coping with rate shock, because it alters the capital recovery pattern for the investment. Lease financing permits expense treatment rather than ratebase treatment of the equipment or facility. With rate-basing, capital recovery begins with high front-end costs that decline over time with depreciation; with leasing, level payments are made indefinitely. Leasing can reduce revenue requirements and lower rates, although ratepayers actually may pay more for equipment or facilities in the long term. The reduction of rate shock through leasing lessens the possibility of regulators disallowing the leasing costs on the basis of the prudence standard. In contrast, ratebase treatment increases the possibility of cost disallowances based on management imprudence.

Disadvantages to lease financing also exist. Leasing essentially shifts some costs from capital to operating expenditures. In all leasing arrangements, insurance costs can be substantial since the lessor will require that the lessee be fully insured. In a leveraged lease, the transaction costs are substantial given the number of parties involved and various tax and legal complexities. With certificates of participation, the use of purchase options requires that interest-rate protection be provided to the investors. Finally, lease financing means that the water utility cannot earn a rate of return on the leased asset.

If the water utility, at the completion of the lease term, does not want the facility, the lessor is left with an unwanted facility and the risk of being regulated by the regulatory commission. Changes in tax rates may result in lessors not receiving the anticipated tax

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[16] David G. Crane, "The Increasing Use of Lease Financing by Utilities," *Public Utilities Fortnightly* 119 (February 19, 1987): 24-28.

savings. Lenders face the risk of defaults on payments of interest and principal. The problems with lease financing result primarily from each party having a different view of the arrangement's advantages and disadvantages. The lender seeks a high return on borrowed funds, the lessor is concerned about the repayment of capital and tax benefits, and the lessee is concerned about the impact on costs, revenue requirements, and fulfilling the obligation to serve should something go wrong.[17]

Partnerships for Operations and Maintenance

Many observers agree that much of the interest and activity in the privatization of the U.S. water and wastewater industries is in the area of contracts for operational services. One reason is that the institutional constraints are greater for sales of assets and capital improvement projects than for operational agreements. The competition for contracts is increasingly intense. More than 400 water and wastewater contracts, totaling about $450 million, were let in 1992; industry sources have estimated that more than 800 contracts will be "outsourced" by 1998.[18] The EPA prepared a quiz for municipalities considering contracting operations and maintenance for a wastewater facility, as reported in table 3-2. The privatizers also are quick to point out the potential benefits of contracting. American Commonwealth Management Services provides guidelines designed specifically for public utility commissions, primacy agencies, and grant and loan agencies.[19] The guidelines identify the conditions under which contract operation and maintenance services can be used and the variety of services available from a qualified operation and maintenance company, including management, planning, engineering, record-keeping, reporting, and evaluation functions.

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[17] A bankruptcy by the lessor, for example, could force a sale of facilities which may not be in the best interest of a utility or its customers.

[18] *Management Practice Bulletin,* a publication of Management Practice, Inc. (October 1994).

[19] See J. Stephen Schmidt, American Commonwealth Management Services Company, Inc. "Guidelines for Services Provided by Contract Operation and Management Organizations," (not dated).

TABLE 3-2
CONSIDERING PRIVATE OPERATIONS AND MAINTENANCE:
EPA'S QUIZ FOR A MUNICIPAL WASTEWATER UTILITY

If your answer to most of the following questions is "yes," then you may want to seriously consider using contract operations and maintenance.

- *Design problems?* Has the plant had trouble meeting design specifications from the beginning? Have increasing design problems come to light as the plant has aged? Has staff had to jerry-rig solutions to design problems too often? Is the plant being run to design parameters?

- *Excessive costs?* Has the wastewater budget been increasing disproportionately as the plant has aged? Are replacement costs high? Are the same items being replaced too frequently?

- *Personnel problems?* Is morale low? Is staff overworked, but poorly utilized? Is staffing out of synch with workload and shift requirements? Are there labor-management disputes? Is salary not commensurate with performance? Is staff hard to acquire and keep?

- *Public-image issues?* Do citizens complain about overflow and backup problems? Odors? Appearance? Higher user charges? Water-quality problems?

- *Operating inefficiencies?* Do plant managers fail to take advantage of opportunities for cost savings or economies of scale? Are certain operating units underused? Have chemical or energy costs risen excessively?

- *Compliance difficulties?* Has plant effluent frequently been in violation of standards? Has the plant experienced enforcement actions? Is compliance regularly marginal? Are periodic problems from industrial loads frustrating compliance?

- *Training issues?* Do plant managers fail to provide training in a consistent, effective manner? Is staff inadequately prepared to deal with sophisticated equipment? Are there too many specialists and not enough generalists on staff? Does the plant have above average safety problems or lost-time accidents?

Source: U.S. Environmental Protection Agency, "Contracting for O&M," *Waterworld Review* 9 (July/August 1993), 12.

Variations in Contracting

A number of variations exist within the general realm of contracting. Patrick Cairo, writing about Lyonnaise des Eaux-Dumez, describes various types of contractual arrangements, each involving increasing levels of private-sector responsibility.[20] The most limited form involves *ancillary* operations, in which the contractor provides a well-defined technical or management service in a specialty area (for example, water main rehabilitation). A limited contract, where the municipality retains ownership and operations responsibility, also is referred to as a *gerence* contract. The three other forms involve a delegration of more responsibility to the contractor. Under a simple *operations and maintenance* agreement (usually lasting five to ten years), the contractor provides day-to-day operations and routine maintenance for a specific geographic sector or a defined area of responsibility. Under an *affermage* agreement (usually lasting twelve to twenty years), the contractor provides only working capital needed to carry out routine operations and maintenance. Under a *concession* agreement, also know as an agreement to build, operate, and transfer (BOT), the contractor provides working capital as well as capital investment in new facilities. Concessions involve a more significant degree of delegated responsibility. The installation is returned to the municipality at the conclusion of the contract, which can last from twenty to thirty years. A comparison of these three delegation arrangements with both public service and private ownership is provided in table 3-3.

As Cairo's analysis suggests, the length of the contractual term is a key characteristic of privatization agreements. Agreements have to extend long enough to allow privatizer to produce promised efficiencies and savings. To promote competition, however, contracts should not be extended for excessively long periods of time. A very long contract may have the effect of simply shifting responsibility without necessarily achieving important operational improvements.

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[20] Patrick R. Cairo, "Delegated Municipal Services for the Water System Industry in France," a paper presented at Waterscapes '91 in Saskatoon, Canada, June 2-8, 1991.

TABLE 3-3
SIMPLIFIED COMPARISON OF OPERATIONAL OPTIONS
FOR WATER AND WASTEWATER SYSTEMS

Institutional Alternative	Public Service	Delegated Services			Fully Privatized
Form of Management	State or Municipality	Operations & Maintenance	Affermage Contract	Concession Contract	Sale of Shares
Legal autonomy of locality	Depends on scale	Strong	Strong	Strong	Depends on scale
Fixed asset ownership	State or municipality	Municipality	Municipality	Operator for new assets	Private company
Capital investment	State or municipality	Municipality	Municipality	Operator	Private company
Working capital	State or municipality	Municipality	Operator	Operator	Private company
Operation & maintenance	State or municipality	Operator	Operator	Operator	Private company
Tariff set by	State or municipality	Municipality	Competitively through contract	Competitively through contract	Private company
Regulation of tariff	State or municipality	Municipality	Municipality	Municipality	State regulator
Beneficiary of revenue	State or municipality	Municipality	Municipality & operator	Operator (plus user fee)	Private company
Cash collection	State or municipality	Municipality	Operator	Operator	Private company
Control of standards & performance	State or municipality	Municipality and state	Municipality, state, and operator	Municipality, state, and operator	State regulator
Remuneration to private company	Not applicable	Proportional charge or cost plus fee	Portion of tariff	Tariff	Full revenue
Duration	Not applicable	5 to 10 years	12 to 20 years	20 to 30 years	Perpetual
Commitment of private company	Not applicable	Limited	Medium	Very high	High
Competition	None	High but for limited scope	High	Very high	Medium

Source: Patrick R. Cairo, "Delegated Municipal Services for the Water System Industry in France," a paper presented at Waterscapes '91 in Saskatoon, Canada in June 2-8, 1991.

Components of a Service Contract

Under a well-designed agreement, full-contract operations firms can: help pay for the cost of some capital improvements; provide corrective and preventive maintenance; apply specialized knowledge and experience; install computerized management systems; keep open books and prepare regular reports; document and disclose costs and savings; implement sound management and staff motivation practices; and assume most utility-management headaches.[21] Many contract firms prefer to operate under a contract of five years or more so that they can establish a track record with the client, prove their effectiveness, and spread their front-end costs over several years. Some wastewater treatment contractors will agree to pay fines for violated effluent limits as an indication of their confidence in turning around a poorly performing plant.

A privatization agreement will cover a wide range of issues. Many of these issues will be identified in the request for proposals issued by the public entity, and also addressed in the actual service contract. The basic components of a privatization agreement include, but certainly are not limited to, the issues outlined in table 3-4.[22]

Promised Savings

Under contract operations, the water utility benefits from the efficient operation and maintenance of the facility and the private firm earns a profit for providing these services. The profit motives of private firms create the potential for better management, better training of personnel, and possibly lower personnel needs.[23] In brief, the potential exists

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[21] U.S. Environmental Protection Agency, "Contracting for O&M," *Waterworld Review* 9 (July/August 1993): 11-12.

[22] See also, George A. Raftelis, *Water and Wastewater Finance and Pricing* (Chelsea, MI: Lewis Publishers, 1989), 90-91; and Raftelis Environmental Consulting Group, Inc., *Feasibility Analysis for Alternative Ownership and Management of the Franklin Area Wastewater Treatment Plant* (Charlotte, NC: Raftelis Environmental Consulting, Inc., 1993), 36.

[23] Westerhoff, "An Engineer's View of Privatization."

TABLE 3-4
KEY COMPONENTS OF A SERVICE CONTRACT

- Contract period and general terms
- Assignment of risks and responsibilities
- Guarantees, warranties, insurance, and indemnification
- Cost allocation and terms of payment
- Provisions for compatible accounting and information systems
- Mechanisms for financing upgrades and expansion
- Procedures for accounting, reporting, and auditing
- Responsibility for securing permits and certificates
- Responsibility for regulatory compliance
- Accountability to customers and guarantee of customer satisfaction
- Operational requirements and performance standards
- Methods of conflict identification and resolution
- Methods of alternative dispute resolution
- Options and conditions for takeover, repurchase, and renegotiation
- Incentives for performance excellence
- Penalties for nonperformance, delays, or default
- Limits on liabilities and damages
- Procedures for emergencies, unanticipated events, and force majeure

Source: Authors' construct.

for the private firms to operate more efficiently, although savings are limited to operations (as compared to construction).

Private contractors usually promise significant savings in costs and potential reductions in water or wastewater service rates. The following examples are provided by Haarmeyer:[24]

- New Orleans, Louisiana signed a five-year contract for operation of the city's wastewater plants and 40 percent annual savings were projected.
- Houston, Texas contracted with a private firm to operate its Southeast Water Purification Plant for five years at projected annual savings of 35 percent.
- Newark, New Jersey contracted out operation of its water treatment plant for 5 years with annual savings of 40 percent.
- Schenectady, New York contracted with a private firm to operate its wastewater treatment facility for five years with expected annual savings of 30 percent or $300,000 annually.
- Ridgefield, Connecticut contracted with a private firm to operate its wastewater facility for five years with expected savings of 30 percent or $50,000 annually.
- Farmington, New Mexico contracted out the operation of its entire water and wastewater systems for five years at projected annual savings of 30 percent.

Contractors accomplish operational benefits and costs savings by being energy efficient, smart, purchasing proficient, staffing and training oriented, economically positioned, technically deep process-control versed, automation knowledgeable, and improvement astute.[25] In Farmington, New Mexico, for example, the 30 percent reduction in costs was attributed to consolidating the maintenance groups of different facilities, installing

[24] Haarmeyer, Privatizing Infrastructure, 51.

[25] Ibid.

management control systems to save on power and chemicals, and making changes in physical facilities to promote more efficient utilization of the utility plant.[26]

Some of the very recent privatization agreements have placed potential savings on an entirely new scale. The White River Environmental Partnership contract to run the Indianapolis wastewater system is expected to save a whopping $65 million over five years, encompassing a 20 percent reduction in utility costs (through engineering process control and improved performance); a 30 percent reduction in personnel costs (through improved training, streamlined management structure, and lower overhead costs); and a 30 percent reduction in maintenance costs (through increased predictive and preventive maintenance and national purchasing accounts).[27]

The Indianapolis 65

The White River Environmental Partnership contract to run the Indianapolis wastewater system is expected to save a whopping $65 million over five years. The lead contractor is JMM Operational Services, which is half owned by Lyonnaise des Eaux.

Assuring Successful Partnerships

Local officials can implement a variety of safeguards to protect the interests of their cities and their citizens in the privatization process. When considering privatization, city officials should perform a series of analyses to evaluate water system needs, review current technologies, assess vendor interest, compare risks and benefits, inventory financing alternatives, and appraise legal and regulatory considerations.[28] Fortunately, information

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[26] David Haarmeyer, "Farmington Turns Over Entire Water System: Big Savings for a Small Town," *Privatization Watch* no. 190 (October 1992): 1.

[27] Walter Lambert, David Sherman, Patrick Cairo, and Peter Talbot, "Privatization Opportunities in New Markets," a presentation at the SRI Conference on Public-Private Partnerships, New York, March 30, 1994.

[28] Raftelis, "Legal Issues," 95.

sources on how to contract for municipal services are fairly well developed. For example, cities can draw on a wealth of information about competitive bidding processes.

Certain necessary safeguards are based simply on common sense, while others may require more technical capability. Contracts involving larger communities can be highly complex and the risks associated with failure seem especially significant. Yet for small communities the potential risks are at least as significant because of constraints on local resources. Also, health and environmental considerations associated with community water supply always are salient, regardless of community size, because even a small mishap in a small community can have very serious consequences. Privatization should enhance, not detract from, compliance with environmental and health standards.

A study of the experience of one community in privatizing its wastewater and solid waste disposal services is instructive about the elements of success.[29] The community's experience in contracting for wastewater services was considered far more positive. Analysts concluded that successful privatization arrangements capitalize on the strengths of the public and private sectors, reflect a coalignment of goals, maintain a high degree of accountability, provide for risk sharing, establish formal and informal communications channels, and include feedback mechanisms. The public sector must bear ultimate responsibility for service provision. In sum, it was believed that the structure of the agreement was more important than the type of privatized service in determining success.

The basic elements of successful privatization agreements are summarized in table 3-5. A wide range of issues are involved. Some of the specific issue areas that local officials must consider are risk management, process management, and monitoring.

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[29] Gerald W. Johnson and Douglas J. Watson, "Privatization: Provision or Production of Services? Two Case Studies," *State and Local Government Review* 23, no. 2 (Spring 1991): 82-89.

TABLE 3-5
ELEMENTS OF SUCCESSFUL PRIVATIZATION AGREEMENTS

- An independent analysis by a qualified consultant, including an analysis of project economics and financing, cost and rate impacts, and general implementation issues.
- A carefully designed competitive bidding process, including prequalification of potential bidders to ensure that they have the financial, managerial, and technical capability appropriate to the task.
- A thorough specification of functional roles and responsibilities of the entity securing the service and the entity providing the service.
- A statement of liability and risk assumption by the parties to the agreement, including contingencies for unanticipated events.
- Clear and specific performance goals related to the conduct of the agreement, including environmental compliance, service quality and reliability, and customer satisfaction.
- Incentive-based compensation arrangements based on success in meeting measurable performance goals.
- A plan for public information and involvement to build community awareness and support for the project on an ongoing basis.
- A procedure for securing regulatory approvals and oversight, including responsibility for reporting requirements.
- A performance review and evaluation process, including penalties for nonperformance and methods for adjusting performance.
- Mechanisms for major and minor conflict resolution, including alternative dispute resolution processes.
- Provisions for future arrangements at the completion of the specified term for the arrangement.

Source: Authors' construct.

Risk Management

Risk management is an essential part of any privatization agreement. City officials can ill afford to enter privatization agreements without a careful analysis of risks and a clear delineation of risk management methods. Savings from privatization will not be realized if the privatization contract allocates costs and risks to the public entity and does not provide the contractor with adequate incentives for efficient and effective performance.[30] The enticement of profits without risk sharing and accountability will not serve community interests.

According to the EPA, "public-private partnership agreements are designed to allocate risks among the parties in proportion to their abilities to bear risks, and to control factors associated with those risks."[31] Privatization agreements are inherently large and complex because of the numerous parties involved and the wide range of issues that are covered (construction, operation, technologies, and finance). Community leaders are advised to seek professional help in structuring privatization agreements in order to be satisfied that community interests are well protected.

Municipalities can be protected from certain risks associated with contracting for services if certain measures are taken:[32]

- Establish an open and competitive bidding process.
- Develop clear performance standards.
- Estimate the cost of providing the service through the public sector.

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[30] Randall G. Holcombe, "Privatization of Municipal Wastewater Treatment," *Public Budgeting and Finance* 11 (Fall 1991): 28-42.

[31] U.S. Environmental Protection Agency, *Public Private Partnerships for Environmental Facilities: A Self-Help Guide for Local Governments* (Washington, DC: U.S. Environmental Protection Agency, 1990), 26.

[32] John Rehfuss, "Designing an Effective Bidding and Monitoring System to Minimize Problems in Competitive Bidding," in *Privatization of Government Services and Assets* (Washington, DC: The National Governors Association, 1993).

- Issue requests for proposals or bid notices that include specific expectations and bid acceptance criteria.
- Thoroughly investigate the financial condition and credit history of potential bidders.
- Require potential contractors to post adequate performance bonds.
- Monitor contract performance through contractor reports, inspections, and citizen surveys.

In addition, city officials should be very wary of automatic cost adjustment clauses or pass throughs under privatization agreements. These practices can seriously undermine the efficiency incentives behind the agreement and resultant savings. Major changes in economic or financial conditions affecting costs should be carefully reviewed.

Process Management

The integrity of the privatization process requires the development of procedures to ensure healthy competition for contracts. Competitive bidding is an essential tool of privatization. Many municipalities have experience in using bidding processes to secure contractual services. Water and wastewater systems may require specialized procedures. Bidders for contracts should be prequalified to ensure that they have the financial, managerial, and technical resources to meet the terms of the contract. For example, the bidder should be able to mobilize an adequate number of certified and experienced plant operators.[33] Only a select number of firms may be truly qualified to operate larger water or wastewater systems.

One area requiring special attention is the potential competition between government agencies that already perform certain functions and private bidders, a form of competition envisioned by "marketization" advocates. The Reason Foundation reports that the integrity of the process requires additional safeguards when public agencies who are competing bidders

[33] This issue has been raised in conjunction with the privatization of the Indianapolis wastewater system.

also have access to proprietary information.[34] In this case, all bidding should be conducted in an open and equitable manner, with all bids due at the same time. The internally prepared bid should accurately reflect service costs and be subjected to an independent evaluation.

Monitoring

Monitoring is a key part of any privatization arrangement. Three key issues for city officials to consider are the frequently high cost of monitoring, alternative monitoring techniques, and responsibility for monitoring.[35] The cost of monitoring can be insignificant or astronomical (up to as much as one third of the contract's cost). Monitoring techniques include inspections, reports, complaints, and accountability and performance standards. Monitoring can be performed by officials at different levels within the governmental agency, and an arrangement working well in one organization for one type of contract may not work well under different circumstances.

Observations

Despite their potential benefits, public-private partnerships are not always pursued. A number of barriers to implementation can be identified, including public policy barriers (as discussed in chapter 5). Many communities do not know that partnerships can be a viable option for their water or wastewater projects; many others have neither the technical expertise nor the financial resources needed to conduct a sound analysis of public-private financing

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[34] "City of Anaheim Shows How Not to Contract for Privatization of Services," *Privatization Watch* no. 190 (October 1992): 1, 5.

[35] John Rehfuss, "Contracting Out and Accountability in state and Local Governments--The Importance of Contract Monitoring," *State and Local Government Review* 22, no. 1 (Winter 1990): 44-48.

options.[36] A major concern about the privatization movement concerns the capacity of many local governments to design contracts that serve and protect their interests.

Proper design of the privatization arrangement is essential for the success of the implementation process. Parties to an agreement must address several critical and complex issues before signing on the bottom line. With a poorly designed arrangement, any efficiency gains could be more than offset by administrative and other costs, including the cost of dispute resolution. Also, the contract must ensure that performance and efficiency incentives will be maintained over time. Successful privatization can make the initial investment in analyzing alternatives and designing agreements well worthwhile. Local government officials can benefit from the privatization experiences of others when considering their own options. As seen in the next chapter, a number of case studies are available for this purpose.

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[36] Adapted from Cathy A. Compton, "Lack of Incentives and Understanding Constrain P3s," and "Federal Barriers Inhibit Public-Private Partnerships," *Small Flows* 6 (January 1992): 6, 7.

CHAPTER 4

SELECTED CASE STUDIES OF PRIVATIZATION AND MUNICIPALIZATION

The applied research on privatization provides numerous cases for analysis and evaluation. As experience with privatization of water and wastewater services grows, so does the number of potential case studies. This chapter summarizes findings from thirty cases of privatization for water systems (fourteen cases), wastewater systems (thirteen cases), and combination water and wastewater systems (three cases), as reported in table 4-1.

The cases generally involve either acquisitions of publicly owned utilities by privately owned utilities, a turnkey arrangement to build, own and operate a facility, or a contract for operations and maintenance. Three of the cases (the Seattle water filtration plant, the Washington, D.C. aqueduct, and the wastewater treatment plant in Halifax-Dartmouth, Nova Scotia) involve prospective privatization arrangements for which considerable uncertainty about implementation persists. Although ownership or operation of these facilities has not been transferred, detailed economic and engineering analyses have been conducted for all three. Each also involves issues common to most privatization decisions. In addition, five cases of "reverse privatization" or municipalization are described. These cases are very instructive about the considerable opposition to private ownership and operation of water and wastewater services that can be found in many local communities.

Detailed descriptions of all of the cases (an overview, the rationale for privatization, and the outcome) are provided in appendixes A and B to this report. The cases were identified in the literature on privatization, as well as through contacts with state public utility commission staff and some of the larger investor-owned utilities that are actively engaged in privatization activity. Several of the cases were previously analyzed in reports prepared by the U.S. Environmental Protection Agency (U.S. EPA) and various consultant studies. These

TABLE 4-1
SELECTED WATER AND WASTEWATER CASE STUDIES

PROJECT	PRIVATIZER
WATER CASES	
1. Scottsdale, Arizona	Scottsdale Water Service Company, Wheelabrator EOS
2. Sabine Parish, Louisiana	Utility Data Services Corporation
3. Aberdeen, New Jersey	New Jersey-American Water Company
4. Mendham, New Jersey	New Jersey-American Water Company
5. Union Beach, New Jersey	New Jersey-American Water Company
6. Loganville, Pennsylvania	The York Water Company
7. Malvern, Pennsylvania	Philadelphia Suburban Water Company
8. Schuykill, Pennsylvania	Philadelphia Suburban Water Company
9. Uwchlan, Pennsylvania	Philadelphia Suburban Water Company
10. Westmoreland, Pennsylvania	American Commonwealth Management Services
11. West Whiteland, Pennsylvania	Philadelphia Suburban Water Company
12. Seattle, Washington	Not selected
13. West Virginia-American Regional	West Virginia-American Water Company
14. Washington, D.C.	Not selected
WASTEWATER CASES	
15. Auburn, Alabama	Merscot-Auburn Limited Partnerships (Metcalf & Eddy)
16. Pelham, Alabama	Parsons Engineering Services (Parsons Corporation)
17. Chandler, Arizona	Parsons Municipal Services
18. Petaluma, California	Not selected.
19. Mount Vernon, Illinois	Environmental Management Corporation
20. Indianapolis, Indiana	White River Environmental Partnership
21. New Orleans, Louisiana	Professional Services Group (Air & Water Technologies)
22. Edgewater, New Jersey	Latepro Corporation (Linde A.G.)
23. East Aurora, New York	Environmental Elements Corporation
24. Miami Conservancy District, Ohio	Wheelabrator Envirotech Operating Services
25. Hood River, Oregon	Operations Management International
26. Greenville, South Carolina	Metcalf & Eddy
27. Halifax-Dartmouth, Nova Scotia	Not selected
WATER AND WASTEWATER CASES	
28. Santa Magarita, California	California-American Water Company
29. Litiz, Pennsylvania	PSC Engineering (Severn Trent)
30. Gettysburg, Pennsylvania	American Commonwealth Management Services

Source: Authors' construct. See appendix A.

Note: Several privatizers have parent companies not specified here.

secondary data sources were supplemented with original documentation when available (such as regulatory filings), as well as follow-up interviews with knowledgeable informants.

The cases provide insights on a variety of issues important to utilities, privatizers, regulators, and perhaps especially to municipal decisionmakers who are considering privatization options.

The Privatization Cases

Although the selected cases in no way constitute a random sample, they do represent a useful range of privatization experiences, including various kinds of privatization agreements. Communities of different sizes and locations are represented as well. The privatization cases span sixteen states; the municipalization cases were found in three states. Eleven of the cases are from states where municipal water or wastewater systems (or their privatizers) are regulated by state public utility commissions.

Privatization activities appear to be clustered in regions of the country where both willing privatizers and a large number of privatization candidates can be found. In the area surrounding Philadelphia, for example, estimates indicate that as many as sixty municipal water and wastewater systems are likely candidates for acquisition by contiguously located private water companies. Pennsylvania and New Jersey are somewhat overrepresented in the sample. Among investor-owned water utilities, Philadelphia Suburban Water Company and the American Water Works Company (and its subsidiaries) are among the most active participants in privatization. These and other utilities view privatization as a key part of their corporate growth strategies. None of the cases in this study involved ownership of assets by international firms, although some of the operation and maintenance contracts (such as Indianapolis) involved international firms.

Overview

Table 4-5 (at the end of the chapter) provides a general profile for each of the privatization cases. Fourteen of the cases occurred before 1990. The rest are more recent and seven still are under review either by a municipality (for example, Seattle), a state public

utility commission (for example, Petaluma), or by a federal agency (for example, Washington, D.C.). In five cases, privatization agreements were eventually "undone" when municipal officials believed that they could provide services as economically as their private contractors. Most privatization contracts include provisions for the municipality to terminate the contract and, if applicable, repurchase utility assets.

Of the thirty cases, eight involve operation and maintenance contracts, while the rest involve full privatization contracts (that is, agreements to build, own and operate facilities or outright purchases). Six of the cases serve 100,000 or more persons. The largest community represented in the sample is Indianapolis, with a population of 850,000. The largest financial transaction considered is the proposed privatization of the Washington D.C. Aqueduct at a projected cost of $535 million. The smallest community represented in the sample is the Borough of Loganville (with a population of 600); Loganville also represents the smallest financial transaction based on the $45,000 price for the water system paid by The York Water Company.

In those cases where a water or wastewater system was purchased by a larger system, the acquired system was relatively small in terms of population served. Two exceptions are the Miami Conservancy case (with a population of 25,000) and Santa Margarita (with a population of 80,000). Otherwise, the largest privatized system was in Uwchlan (with a population of 17,500), which was acquired by the Philadelphia Suburban Water Company. A variety of valuation methods can be used in privatization transactions (as described in chapter 6). For some of the acquisition cases, price was determined through a negotiation process. Details of these negotiations tend to be somewhat proprietary. Many of the cities that have engaged in privatization used a public bidding process because they are required to do so by state or local legislation or because local officials want the best price possible for the sale or service. One sign of the emergence of willing providers in the privatization marketplace is the increasingly vigorous bidding for municipal service contracts. In some cases, five to six entities are in competition; some are private firms, some are investor-owned utilities, and some are other municipalities and water districts.

Privatization by definition suggests a transfer of responsibility from the public to the private sector, but it does not necessarily require regulatory oversight.[1] Twelve state commissions regulate municipal water systems and six regulate municipal wastewater systems, but the scope of regulatory authority tends to be somewhat limited. Commission involvement in privatization generally is limited to those cases where a regulated investor-owned system is a party to the transaction. Acquisitions and changes in a utility's certificate of convenience and necessity may require approval. The state public utility commissions were involved in about one third of the cases included here. Most of these concerned acquisitions in Pennsylvania (five cases) and New Jersey (three cases). At the time of this study, the commissions in California and West Virginia were reviewing privatization applications involving jurisdictional investor-owned utilities.

Rationale

For the individual cases, the rationale for privatization is reported in table 4-5; these data also are summarized in table 4-2. The reasons why municipal officials pursued (or are pursuing) privatizing their water or wastewater services was gleaned from both published sources and interviews. The ordering of the reasons for the individual cases is generally reflective of their priority, although this determination is subjective and should be viewed with appropriate caution. Typically, a combination of reasons is involved in the decision to privatize. A prominent example is the combination of lack of funding and problems with environmental compliance. This finding is very consistent with earlier applied research on water and wastewater privatization (as reported in chapter 3). It also indicates the potential role of privatization improving the viability of municipal water systems, smaller systems in particular.

The case studies confirmed expectations about the specific reasons for privatizing water and wastewater services. Not surprisingly, the reasons given the most mentions were the need to find financial resources to make essential capital improvements and the need to

[1] See chapter 5.

TABLE 4-2
SELECTED WATER AND WASTEWATER CASE STUDIES:
REASONS FOR PRIVATIZATION

Reason	Water	Waste-water	Water & Waste-water	Total
Funding needed for capital improvements	9	7	1	17
Environmental compliance issues	10	6	1	17
Source of supply or capacity limitations	7	4	0	11
Wanted expert water management	4	1	2	7
Potential to lower operating costs	2	3	1	6
Potential to lower construction costs	1	4	0	5
Opportunity costs associated with project funding	0	4	1	5
Potential to increase system efficiency	2	1	0	3
Local labor issues or disputes	0	2	0	2
Wanted out of the water or wastewater business	0	2	0	2
Potential to leverage assets	1	1	0	2

Source: Authors' construct. See appendix A.

bring systems into compliance with federal, state, and local environmental standards (both with 17 mentions). The next most frequently cited reason was source of supply or system capacity limitations (11 mentions). In several cases, communities found that privatization allowed them to tap into specialized management expertise in the water supply and wastewater treatment fields (7 mentions). Both the potential to lower operating costs (6 mentions) and the potential to lower construction costs (5 mentions) were found to play a significant role in the decision to privatize.

In some cases, funding municipal water and wastewater projects through traditional means (such as bond issuances) apparently would present too great an opportunity cost to the community (5 mentions). In other words, funding these project would limit the community's

ability to fund other necessary projects. In a few cases, communities recognized the potential for privatization to lower costs by improving system efficiency (3 mentions). A few actually explicitly acknowledged a desire simply to get out of the wastewater business (2 mentions). Finally, although not often mentioned, the desire to increase municipal cash flows by leveraging utility assets played a role as well (2 mentions).

In a typical privatization case, the privatizers provide a myriad of pragmatic reasons for the agreement. A synthesis prepared by the California-American Water Company in conjunction with the Santa Margarita case argued that privatization would:

- Immediately reduce SMWD current water and sewer volumetric and base charges by 5 percent.
- Avoid any future rate increase—except for continuation of SMWD's normal pass-through of increases of purchased water and power costs for a period of at least 3 years, and based on current assumption no rate increase will be required for at least 10 years.
- Provide the continued oversight and regulation of all rates and operations by the CPUC and Division of Ratepayers Advocates ("DRA") in lieu of the totally autonomous functions of SMWD, with no elimination of the District Securities Commission in 1990.
- Avoid the future issuance of an additional $2.2 billion of bonds already authorized for SMWD but not yet issued, which would require additional property assessments to pay their debt service.
- Eliminate all SMWD benefit assessments, currently included on property tax bills but principally used to pay water and sewer facilities bond debt service.
- Generate approximately $4 million of additional annual property tax revenues for public agencies in Orange County.
- Reduce future project construction costs by at least 15 percent.
- Introduce the process of disciplined comprehensive multi-year planning for water and wastewater facilities, historically lacking in SMWD operations.

- Impose Security and Exchange Commission ("SEC") requirements for comprehensive disclosure of all pertinent financial dealings of the utility, thereby reducing the potential for excessive and premature financing, imprudent investments and other financial risks.

- Ensure high quality water and wastewater service by taking advantage of the technical and professional expertise and resources of the nationally prominent American System.

- Produce approximately $4.2 million in annual operating expense reduction by taking advantage of California-American's economies of scale.

- Create a new Orange County corporate citizen with a proven task record of significant community contribution.

- Enhance career opportunities for SMWD employees, through a large state-wide company with access to a nationwide network of affiliated companies.

- Reduce pressure on Orange County tax-exempt bond market.

- Provide an opportunity to measure the comparative efficiency and cost-effectiveness of governmental and private provision of water and wastewater utility services.

- Serve the public interest in the opinion of the residents of SMWD.

Evidently, California-American enjoyed a relatively favorable political environment in which to make its privatization bid. According to a consumer survey prepared for the company, Santa Margarita customers are Republican, high-income, and supportive of privatization.[2] The results of one question posed in the survey are reported in table 4-3. In every service category, respondents reported that they perceived a private company to perform better than a government-operated water district. Naturally, opinion surveys sponsored by parties with a vested interest must be viewed with an appropriate amount of caution. In general, more refinement of consumer survey techniques is needed for use in planning for water and wastewater utilities.

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[2] California-American Water Company, *Change of Organization for the Santa Margarita Water District,* a report prepared for the Local Agency Formation Commission (January 1995).

TABLE 4-3
CUSTOMER SURVEY BY CALIFORNIA-AMERICAN
FOR THE SANTA MARGARITA WATER DISTRICT

Here is a list of issues people have mentioned to us, having to do with having water service. For each of the following things, please tell me whether you feel they would be handled better by a private company or would be handled better by a government operated water district.

Issues	Private Company Better	Government Operated Water District Better
Operating efficiently	79	12
Keeping water rates low	59	26
Providing reliable service	73	14
Keeping up with growth and development	70	17
Being responsive to consumers	80	12
Maintaining water quality	53	29
Providing adequate water supplies	52	32

Source: California-American Water Company, *Change of Organization for the Santa Margarita Water District,* a report prepared for the Local Agency Formation Commission (January 1995), 81.

Typically, both economic (or fiscal) and noneconomic reasons for privatization are contemplated by municipalities. Most analysts exercise a certain degree of diplomacy in presenting the case for privatization. As illustrated in the analysis prepared for the Miami Conservancy District case, summarized in table 4-4, some care usually is taken not to characterize existing operations as in any way substandard or unsatisfactory. Instead, the emphasis is on demonstrating that privatization will be an improvement over the *status quo* along several key indicators. In virtually every case, privatizers promise that cost and rate *increases* will be less than they would be under continued municipal operations. This presents a dilemma for evaluation purposes, because this kind of outcome is extremely difficult to prove (one way or another). Essentially, it requires analysts to measure the opportunity costs that would have been occurred if cities had chosen not to privatize. Evaluation is made more difficult by the fact that anticipated savings are not always quantified.

The privatizers themselves demonstrate relatively consistent reasons for their involvement in the privatization movement. Most wanted to enter what they believed to be a growth business with a potential for a healthy rate of return. For some, privatization was consistent with other corporate strategies.

Outcomes

The privatizers generally promise savings through improved operational efficiency. New Jersey-American, in its privatization campaign materials, emphasizes the company's ability to achieve economies of scale in purchasing, spread improvement costs over a larger customer base, and deploy equipment and employees more efficiently.[3] In fact, New Jersey-American has produced substantial rate reductions for a number of its acquired systems.[4] In many privatization cases, rates for service are not expected to go down, but they are expected

[3] Brochure supporting privatization published by New Jersey-American Water Company (not dated), provided to customers in the Borough of Highlands prior to a referendum election in 1994.

[4] Correspondence in 1995 from Edward W. Limbach, American Water Works Company. In Aberdeen, rates were reduced by 50 percent; in Union Beach, rates were reduced by 45 percent.

TABLE 4-4
EVALUATION OF OWNERSHIP ALTERNATIVES
FOR MIAMI CONSERVANCY DISTRICT

Criteria	Continued MCD Ownership	Regional Sewer District	Wheelabrator Privatization
Economic Criteria			
Short-term rate impact (first 5 years)	S	S-	G+
Long-term rate impact (20 years)	G+	S	G+
Economic risks	G	G	G+
Noneconomic Criteria			
Control by municipalities	S+	G-	S
Regulatory compliance	G-	G-	G+
Rate stability	S	S-	E
Quality of service	G+	G+	G+
Responsiveness to capital expansion requests	S	G+	E-
Public acceptance	G+	G-	G-
Accountability	G-	G+	S+
Public implementation of the alternative	E	S	G-

Source: Raftelis Environmental Consulting Group, Inc., *Feasibility Analysis for Alternative Ownership and Management of the Franklin Area Wastewater Treatment Plant* (Charlotte, NC: Raftelis Environmental Consulting, Inc., 1993), 9.

Rating scale: E = Excellent, G = Good, S = Satisfactory, P=Poor (not used).

to be stable or increase by lesser amounts that would occur under continued municipal operations. Outcomes were analyzed to determine whether expected outcomes actually materialized and whether participants in the privatization agreements were generally satisfied.

Table 4-6 at the end of the chapter presents a summary of outcomes for the thirty privatization cases, based primarily on telephone interviews with officials in the cities, counties, townships and villages that were engaged in the privatization activity (see appendix C). The outcome data should be viewed with appropriate caution to the extent that not all of the cases have been finalized. Moreover, the evaluation of outcomes is very subjective; different parties to a privatization agreement may have very different views of its impact.

In many of the cases analyzed, increases in capital costs, operating costs, and rates for service were anticipated because of planned additions and improvements in conjunction with the privatization agreement. Most of the contacts interviewed indicated that actual capital cost increases were consistent with anticipated increases. In three cases, however, capital increases were higher than expected. For operating costs, increases were higher than expected in three cases but lower than expected in five cases.

For some of the communities in the sample, rate increases following privatization were substantial (for example, the doubling of rates in Loganville, Auburn, and Litiz). In most of the cases, the respondents generally believed that rate impacts were consistent with expectations. In two cases, rate decreases were promised and accomplished. In two cases, Scottsdale and Pelham, rate increases were higher than promised.

Respondents also were asked to describe whether the privatization arrangement was satisfactory to city officials and the customers served by the water or wastewater system. The level of satisfaction appeared to be high in virtually every instance. City officials indicated that all of the contractors' promises had been fulfilled. Few or no complaints by customers were reported (not counting those arrangements that remain under review). Only one contractor was negatively viewed. Even in those cases where the public entity repurchased the system or cancelled the contract, customers apparently were not dissatisfied with the performance of the contractors. Interestingly, customers in two communities appeared to be unaware that the local government was no longer the owner (Greenville) or operator (Hood River) of the system.

Importantly, however, disputes arose in several of the cases. As of early 1995, disputes in two of the pending cases (Schuykill and Santa Margarita) were unresolved. In some cases, disputes occurred over costs that the cities expected their contractors to absorb, but for which the contract language was unclear. These disputes usually went to arbitration and were amicably resolved. In Indianapolis, a suit was filed by the labor union representing city employees but was resolved amicably when the contractor agreed to hire most of the unionized workers.[5] In some cases, however disputes contributed to the eventual decision by some cities to cancel their operations contracts (for example, Westmoreland) or repurchase their systems (for example, Greenville).

As noted above, the privatization arrangement was "undone" in five cases (Scottsdale, Pelham, East Aurora, Greenville, and Westmoreland). Dissatisfaction on the part of customers did not seem to play an important role in these decisions. Local officials reclaimed control over their systems because they believed they could operate these facilities at lower cost than the private entity. In each case, however, unique circumstance may have played a role as well:

- Officials in Scottsdale were very complimentary toward their contractors, and generally supportive of privatization. However, political and financial motives apparently contributed to the eventual decision to regain control over the water system. The fairly complicated corporate relationships that defined the privatization arrangement may have contributed to its demise.

- The city of Pelham repurchased its wastewater system because operating costs were rising substantially. City officials believed that the contractor's operating costs were too high and that the contract language did not provide adequate incentives for cost control. After the repurchase, annual operating costs fell by $175,000.

- East Aurora officials were not dissatisfied with their contractor. The city was able to refinance its wastewater plant at a 4 percent interest rate through a state revolving loan fund. The contractor was primarily interested in ownership, and did not want to provide only operational services. The city does not want to operate the plant and plans to seek another private operator in 1995.

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[5] Interview with William Bardonner on March, 30, 1995.

- Officials at the regional sewer authority in Greenville were unhappy with the contract, especially the language requiring the authority to cover escalating operating costs. At the same time, the contractor needed cash and was very willing to sell the plant. The privately operated plant had the highest operating costs of the nineteen plants under the sewer authority. The authority believed it could operate the plant at a lower cost. When the contract expired, it was not renewed.

- For fifty years, the Westmoreland water system was privately operated for a county municipal authority. In 1992, the authority determined that it had accomplished its regionalization goals and could operate the system at a lower unit cost than its contractor. Apparently, however, the relationship between the authority and the contractor was good and the current operator of the plant is a former employee of the private contractor.

Despite these findings, city officials in most of the cases responded positively when asked whether they would engage again in privatization. Generally, the informants would recommend that cities privatize or consider privatization as an option. The only case exhibiting a significant backlash against private ownership of public activities was Greenville, where officials recommended that privatization should be infrequently used and only after the contract is carefully negotiated. In particular, they found that contractual provisions allowing a pass-through of costs were too generous for the privatizers. Interestingly, despite their skepticism about privatization, Greenville officials would recommend their particular contractor. The generally positive relationship between cities and the contractors bodes well for the continued interest in privatization options.

The regulatory impact of privatization in the cases reviewed here was generally not significant. However, the commissions in California, New Jersey, Pennsylvania have had a number of fairly substantial regulatory proceedings involving the expansion activities of jurisdictional investor-owned utilities. In the case of the Petaluma, the commission must determine whether an exemption from regulation is justified and appropriate. This case could be precedent setting for California and elsewhere with regard to the commission role in certain types of privatization activity.

The desire to avoid state commission regulation is a recurring theme in many of the privatization cases. Nonutility contractors and municipalities both tend to disfavor regulation,

but for different reasons. Contractors do not want to be inhibited by regulatory procedures; more importantly, they do not want the state to limit their ability to earn profits. City officials generally are wary of regulation because they do not want to transfer ratemaking authority to the state. Cities also want to retain control over service boundaries and other franchise considerations because the management of local water and wastewater services is a key part of annexation strategies. Only representatives of investor-owned water utilities seemed to have a more favorable view of regulation. Obviously, it serves the interests of the investor-owned community to recognize the legitimacy and value of state regulation. California-American, for example, has argued that commission oversight will help assure that rates for the Santa Margarita system will be cost-based and efficient. Most investor-owned utility managers are reasonably comfortable with the state regulatory process and are accustomed to surrendering a degree of control to regulators. In addition, anecdotal evidence suggests that some utility managers may prefer working with state rather than local agencies for political reasons.

Much remains to be learned from all of the privatization cases. All will continue to generate new data and findings, and stimulate further debate. The potential privatization cases may be especially worth watching because they reflect the ideological polarization that proposals for privatization usually bring about. Critics in Seattle, Washington, D.C., and elsewhere believe that water and wastewater services are properly provided by governmental agencies, and are very concerned that privatization would somehow undermine the service integrity of their water systems.[6] Based on the case studies, however, ideological arguments eventually seem to give way to more pragmatic reasons both for and against privatization. The need for financing appears to be the leading pragmatic rationale for privatization; the need to preserve local control appears to be the leading pragmatic rationale against privatization (and for municipalization).

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[6] See, for example, Ernst & Young, *Study of Seattle Water Department Tolt Filtration Plant* (August 1993), VII-2.

The Municipalization Cases

Although one might never surmise it based on most of the privatization literature, not all transfers of utility assets or operations are to the private sector. Several instances of municipalization also have occurred, where a municipality or other governmental entity buys the water or wastewater system from the private investors. Many cities can use their powers of eminent domain to purchase privately owned systems, which can force a legal resolution of disputes over price and other terms of the sale. Municipalization cases can be highly contentious and political; they usually reflect a high degree of dissatisfaction with the service provided by the private provider.

To balance the perspective on privatization, five cases where ownership of water systems was shifted from the private to the public sector were reviewed (see appendix B). The cases involved the communities of North Port, Florida; Palm Beach County, Florida; Santa Fe, New Mexico; Marysville, Ohio; and Washington Court House, Ohio. These instances of municipalization are even less representative than the privatization cases, but they do offer insights about the reasons why some cities purchase water or wastewater facilities and favor municipal over private operations. Most of the information gathered for these cases was obtained directly through interviews with knowledgeable informants at the municipalities and the investor-owned utilities that had served them.

Why Cities Buy Their Systems

Cities buy their water or wastewater systems to control and direct economic growth and development, to control ratemaking, and because officials believe that rates are "too high" in an absolute sense or relative to the rates paid by customers in nearby communities.

In all five cases, three basic reasons for municipalization were provided. All three reasons reflect economic development and political concerns held by most communities. First, city officials wanted to control their water or wastewater systems as a means of controlling and directing economic growth and development. Utilities systems traditionally have played a major role in municipal annexation strategies by which communities expand

their tax base. Larger communities can enjoy improved economies of scale for a variety of services, including utility services.

Second, city officials wanted to gain control over ratemaking. The investor-owned systems that served these cities were regulated by state public utility commissions. However, local officials seemed to believe that regulation added to already high water rates and that municipalization without regulation would make rate reductions possible. For example, a Washington Court House, Ohio, official decried the "astronomical impact of being regulated by the Ohio Public Utilities Commission."

Third, in all five of the cases, water and sewer rates were considered "too high" in an absolute sense or relative to the rates paid by customers in nearby communities. Interestingly, a perception of excessively high rates was a primary reason for municipalization in the two rather contentious Ohio cases; however, in neither case were rates actually reduced following the acquisitions. In both Ohio cases, the cities involved also lost substantial tax revenue after the purchase.[7]

As in the process of privatization, municipalization can raise interesting implementation issues. In North Port, city officials and the seller negotiated the price of the sale for three years. In Santa Fe, negotiations included an agreement by the city to hire all of the private system's employees. In both Ohio municipalization cases, which involve the same investor-owned water utility, the purchase price was based on replacement cost (rather than original cost) less accumulated depreciation, which tends to significantly inflate prices above market levels. Doubts exist about whether the price would have withstood regulatory scrutiny had the transaction been jurisdictional. Regulatory involvement in all of the reported municipalization cases, however, has been mostly cursory.

In each case of municipalization, local citizens and utility customers apparently were satisfied with the purchase. In two cases, referenda to acquire the systems were overwhelmingly passed. In several cases, city officials indicated that they would privatize again under the right circumstances. In one case, however, interviewees asserted that they

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[7] Interviews with employees of the Ohio Water Service Company and the cities of Marysville and Washington Court House, Ohio in March 1995.

would *never* again privatize. Apparently, the customers in the communities opting to purchase their systems were satisfied with the decision, especially because of the local control advantages they believed municipalization would bring.

As in privatization, not every attempted municipalization is successful. In Mexico, Missouri, for example, dissatisfied city officials were unable to acquire the privately owned water system serving the community.[8] The state Supreme Court sided with the utility in preventing the city's use of eminent domain to condemn and take over the system's operations. Subsequently, legislation was passed to limit the use of eminent domain for acquiring public utilities (see chapter 5). The system eventually was acquired by the Missouri-American Water Company, thus staying within the domain of the private sector.

Observations

The growing number of cases is beginning to fill the voids in understanding about why and how municipalities privatize their water and wastewater systems. Several of the experiments in privatization have thus far yielded very positive results. Yet much of the available data is highly anecdotal and potentially biased. In some cases, different studies of the same cases report contradictory information. Obviously, generalization cannot be made on the basis of case studies alone. Most of the applied research has been generated by participants in the privatization movement who have a vested interest in how privatization is perceived. Clearly, more objective empirical research is needed in this area, particularly with regard to the impact of privatization over time. In addition, more work is needed on the conditions under which privatization or municipalization is more or less likely to succeed.

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[8] *Waterweek* (December 21, 1992): 7, and subsequent interviews.

TABLE 4-5
SUMMARY OF SELECTED WATER AND WASTEWATER CASE STUDIES

PROJECT	Pop. (1995)	Nature of Project	Con-tract Date	Status	Reason for Exploring Privatization	Capital Cost or Fee	Options		PUC Review
							Repur-chase	Termi-nate	
WATER CASES									
1. Scottsdale, Arizona	50,000	Build, own, & operate	1984	Repurchased; contract terminated in 1993.	Source or capacity limitations; potential to lower construction costs; potential to lower operating costs.	$23 mil.	Yes	Yes	No
2. Sabine Parish, Louisiana	5,000	Expand and operate	1989	Contract in force.	Funding needed; environmental compliance.	$2 mil. plus a var. fee	na	na	No
3. Aberdeen, New Jersey	10,000	Purchase	1991	Purchased.	Source or capacity limitations; environmental compliance.	$4.6 mil.	No	No	Yes
4. Mendham, New Jersey	5,000	Purchase	1992	Purchased.	Funding needed; environmental compliance; source or capacity limitations.	$2.8 mil.	No	No	Yes
5. Union Beach, New Jersey	6,000	Purchase	1992	Purchased.	Source or capacity limitations; environmental compliance.	$2.9 mil.	No	No	Yes
6. Loganville, Pennsylvania	600	Purchase	1978	Purchased	Funding needed; environmental compliance; wanted expertise.	$45,000	No	Yes	Yes
7. Malvern, Pennsylvania	3,000	Purchase	1993	Purchased.	Funding needed; environmental compliance; potential to lower operating costs.	$1.3 mil.	No	No	Yes
8. Schuykill, Pennsylvania	1,625	Purchase	None	Referendum expected in late 1995.	Funding needed; environmental compliance.	$1.0 mil.	Yes	Yes	Yes

TABLE 4-5 (continued)

PROJECT	Pop. (1995)	Nature of Project	Contract Date	Status	Reason for Exploring Privatization	Capital Cost or Fee	Options		PUC Review
							Repurchase	Terminate	
9. Uwchlan, Pennsylvania	17,500	Purchase	1992	Purchased.	Funding needed; environmental compliance; source or capacity limitations.	$10.6 mil.	No	No	Yes
10. Westmoreland, Pennsylvania	400,000	O&M	1943	Terminated in 1992.	Potential to increase efficiency; wanted expertise.	$1.2 mil.	na	Yes	No
11. West Whiteland, Pennsylvania	2,500	Purchase	1992	Purchased.	Source or capacity limitations; funding needed; environmental compliance.	$2.6 mil.	No	No	Yes
12. Seattle, Washington	450,000	Build, own & operate	None	Evaluating design; possibly 2001.	Potential to increase efficiency; wanted expertise; potential to leverage assets	$82 mil.	na	na	No
13. West Virginia-American Regional	25,000	Build, own & operate	None	Possibly 1996.	Source or capacity limitations; wanted expertise; funding needed.	$43 mil.	No	Yes	Yes
14. Washington, D.C.	na	Purchase	None	Extensive studies.	Funding needed; environmental compliance; wanted expertise.	$535 mil.	na	na	No
WASTEWATER CASES									
15. Auburn, Alabama	34,000	Build, own & operate	1985	Contract in force	Funding needed; source or capacity limitations.	$36 mil.	Yes	Yes	No
16. Pelham, Alabama	10,000	Build, own & operate	1985	Repurchased; contract terminated in 1992.	Environmental compliance; funding needed.	$15 mil.	Yes	Yes	No

TABLE 4-5 (continued)

PROJECT	Pop. (1995)	Nature of Project	Con-tract Date	Status	Reason for Exploring Privatization	Capital Cost or Fee	Options		PUC Review
							Repur-chase	Termi-nate	
17. Chandler, Arizona	60,000	Build, own & operate	1985	Contract in force	Source or capacity limitations; funding needed; opportunity costs.	$22 mil.	Yes	Yes	No
18. Petaluma, California	47,000	Build, own & operate	None	Under review.	Source or capacity limitations; potential to lower construction costs; potential to lower operating costs.	$26 to $40 mil. est.	Yes	Yes	Yes
19. Mount Vernon, Illinois	17,470	Build & operate	1987	Contract in force	Environmental compliance; funding needed; labor issues.	$6.6 mil.	na	Yes	No
20. Indianapolis, Indiana	850,000	O&M	1994	Contract in force	Potential to leverage assets; wanted out; potential to lower construction costs.	$15 mil. annual fee (decreases)	na	Yes	No
21. New Orleans, Louisiana	480,000	O&M	1991	Contract in force	Potential to lower operating costs; potential to increase efficiency; labor issues.	$5 mil. annual fee	na	Yes	No
22. Edgewater, New Jersey	5,000	Build & operate	1988	Contract in force	Environmental compliance; funding needed; source or capacity limitations.	$10 mil.	na	Yes	No
23. East Aurora, New York	10,700	Build, own and operate	1985	Repurchased in 1994; contract terminates in 1995.	Environmental compliance; funding needed; opportunity costs.	$7.4 mil.	Yes	Yes	No
24. Miami Conservancy District, Ohio	25,000	Purchase	1994	Contract in force	Opportunity costs; wanted out.	$6.8 mil.	Yes	Yes	No

TABLE 4-5 (continued)

PROJECT	Pop. (1995)	Nature of Project	Contract Date	Status	Reason for Exploring Privatization	Capital Cost or Fee	Options		PUC Review
							Repurchase	Terminate	
25. Hood River, Oregon	5,000	O&M	1983	Contract in force	Environmental compliance; funding needed; wanted expertise.	$330,670 fee in 1994	na	Yes	No
26. Greenville, South Carolina	300,000	Build, own & operate	1987	Repurchased in 1990; contract terminated in 1993.	Source or capacity limitations; potential to lower construction costs; opportunity costs.	$23 mil.	Yes	Yes	No
27. Halifax-Dartmouth, Nova Scotia	300,000	Build, own & operate	None	Under review	Potential to lower construction costs; potential to lower operating costs.	$400 mil. (est.)	na	na	No
WATER AND WASTEWATER CASES									
28. Santa Magarita, California	80,000	Purchase	None	Under review	Opportunity costs.	$305 mil.	No	No	Yes
29. Litiz, Pennsylvania	16,500	O&M	1989	Contract in force	Environmental compliance; funding needed; wanted expertise.	$720,400 fee in 1995	na	Yes	No
30. Gettysburg, Pennsylvania	8,000	O&M	1949	Contract in force	Wanted expertise; potential to lower operating costs.	annual fee	na	Yes	No

Source: Authors' construct. See appendix A.

na = not applicable or not available.

TABLE 4-6
OUTCOMES OF SELECTED WATER AND WASTEWATER CASE STUDIES

PROJECT	Capital cost increases	O&M cost increases	Rate impacts	Disputes or litigation?	All promises fulfilled?	Customers satisfied?	Would do it again?	Would recommend contractor?	Would recommend privatizing?
WATER CASES									
1. Scottsdale, Arizona	No	Yes	Higher increases than expected (since 1991).	Dispute over some costs	Yes	Yes	No	Yes	Yes
2. Sabine Parish, Louisiana	Yes	No	Smaller increases than alternatives.	No	Yes	Not entirely	Yes	na	Yes
3. Aberdeen, New Jersey	Minor	na	Decreased by 50%.	No	Yes	Yes	Yes	Yes	Should be considered
4. Mendham, New Jersey	Yes	Yes	Smaller increases than alternatives.	No	Yes	Yes	Yes	Yes	na
5. Union Beach, New Jersey	Yes	Yes	Decreased by 45% as expected.	No	Yes	Most	Yes	Yes	Should be considered
6. Loganville, Pennsylvania	Minor	na	Increased by 100% as expected.	No	Yes	Yes	Yes	Yes	Should be considered
7. Malvern, Pennsylvania	Yes	Yes	Increased gradually, as expected.	No	Yes	Very	Yes	Yes (has done so)	Should be considered
8. Schuykill, Pennsylvania	Expected	Expected	Expect smaller increases than alternatives.	Yes	na	na	na	na	na
9. Uwchlan, Pennsylvania	Yes	Yes	Increased by 20% in 1994.	No	Yes	Most	Yes	Yes	Yes

TABLE 4-6 (continued)

PROJECT	Capital cost increases	O&M cost increases	Rate impacts	Disputes or litigation?	All promises fulfilled?	Customers satisfied?	Would do it again?	Would recommend contractor?	Would recommend privatizing?
10. Westmoreland, Pennsylvania	Yes	More than expected	Stable followed by large increases in the early 1990s.	Minor	Yes	Yes	No	Yes	Should be considered
11. West Whiteland, Pennsylvania	Yes	Yes	Increased by 20% in 1993, as expected.	No	Yes	Yes	Yes	Yes	Yes
12. Seattle, Washington	Expected	Expected	Projected to increase by 5%.	Some disputes	na	na	na	na	na
13. West Virginia-American Regional	Expected	Expected	Mixed rate impacts are expected.	Very minor	na	na	na	na	na
14. Washington, D.C.	Expected	Expected	Expect significant increases	na	na	na	na	na	na
WASTEWATER CASES									
15. Auburn, Alabama	Yes	Yes	Increased by 100% in 1994, as expected.	No	Very well	Most	Yes	Yes	Should be considered
16. Pelham, Alabama	None	More than expected	Increased by 12% (a decrease was expected)	No	Very well	Yes	Not same terms	Yes	Should be considered
17. Chandler, Arizona	None	Yes	Increased	No	Very well	Yes	Yes	Yes	Yes
18. Petaluma, California	na	na	Expect smaller increases than alternatives	No	na	na	na	na	na

TABLE 4-6 (continued)

PROJECT	Capital cost increases	O&M cost increases	Rate impacts	Disputes or litigation?	All promises fulfilled?	Customers satisfied?	Would do it again?	Would recommend contractor?	Would recommend privatizing?
19. Mount Vernon, Illinois	Yes	Less than expected	Smaller increases than alternatives	No	Very well	Yes	Yes	Yes	Should be considered
20. Indianapolis, Indiana	na	Less than expected	Smaller increases than alternatives	Litigation	Yes	Yes	Yes	Yes	Yes
21. New Orleans, Louisiana	Yes	Less than expected	No increases, although some were expected	Dispute	Very well	Apparently	Yes	Yes	Should be considered
22. Edgewater, New Jersey	Some	Some	New hookups will pay costs, as expected	No	Yes	Yes	na	Yes	Should be considered
23. East Aurora, New York	Minor	Yes	Substantial increases, as expected	Dispute	Yes	Yes	Yes	Yes	Should be considered
24. Miami Conservancy District, Ohio	na	Yes	Expect smaller increases than alternatives	Dispute	Very well	Yes	Yes	Yes (has done so)	Yes (for smaller systems)
25. Hood River, Oregon	na	Less than expected	Constant then increased in 1993, as expected	No	Very well	Apparently	Yes	Yes	Should be considered
26. Greenville, South Carolina	na	More than expected	Smaller increases than alternatives	No	Yes	Apparently	No	Yes	No
27. Halifax-Dartmouth, Nova Scotia	na	na	Not available	No	na	na	na	na	na

TABLE 4-6 (continued)

PROJECT	Capital cost increases	O&M cost increases	Rate impacts	Disputes or litigation?	All promises fulfilled?	Customers satisfied?	Would do it again?	Would recommend contractor?	Would recommend privatizing?
WATER AND WASTEWATER CASES									
28. Santa Magarita, California	na	na	Expect smaller increases than alternatives	Dispute	na	na	na	na	na
29. Litiz, Pennsylvania	Yes	Less than expected	Water doubled, sewer constant	No	Very well	Yes	Yes	Yes	Should be considered
30. Gettysburg, Pennsylvania	Yes	Yes	Gradual increases, as expected	No	Yes	Yes	Yes	Yes (has done so)	Yes

Source: Authors' construct. See appendix A.

na = not applicable or not available.

CHAPTER 5

BARRIERS AND INCENTIVES

An upscale management symposium on *Partnerships in Privatization* promises attendees that they will learn "partnering strategies to overcome the barriers and take advantage of the opportunities in privatization," including advice and instruction on how to "properly value a municipal utility," "make and maintain successful strategic alliances in the U.S. and abroad," and "successfully navigate the turbulent regulatory, financial, legal and labor waters of privatization."[1] Overcoming the barriers to privatization, and the related topic of incentives, are frequently addressed in the privatization literature. Discussed here are specific process, financial, political, and policy barriers. Initiatives to overcome the barriers to (and provide incentives for) privatization also are discussed.

Why Cities Don't Privatize

According to one study of wastewater utility privatization (Johnson and Heilman, 1987), cities choose not to privatize for several reasons:

Economic. High costs and rates, minimal cost savings, or the city and the privatizer could not reach agreement on the terms of a contract.

Political. Loss of municipal control over facilities, employees, and rates.

Legal. Unwillingness of the privatizer to guarantee a proposal due to tax law uncertainties.

Other. Objections to buy-back provisions, risk of default, and difficulties dealing with private contractors.

The Scope of Barriers

The barriers to privatization are very broad in scope. Full-blown privatization of water service in many communities seems unlikely given the monopoly characteristics of water supply, limits on competition, and

[1] Strategic Research Institute, *Second Annual Clean Water Conference: Partnerships in Privatization* (conference brochure, 1995).

the technology of water delivery, not to mention ideological and political barriers to the divestiture of government-owned assets. Local officials tend to equate surrendering utility assets with surrendering local control over utility services. Some barriers to privatization are based on perceptions that may or may not be realized in every circumstance. However, even misconceptions can present a significant obstacle to implementation. The barriers often cited in the privatization literature are:[2]

- Public employee labor unions fear the loss of employment and pensions for municipal utility works.
- Privatization may mean loss of grant money or tax-exempt financing for capital improvements.
- The rates charged by privately owned water utilities are generally higher than the rates charged by publicly owned utilities because private firms charge full costs and must pay taxes and earn a profit.
- Communities are concerned that privatization means giving up control over day-to-day operations and service standards, as well as planning for long-term growth and economic development.
- Communities also are very concerned about surrendering control over ratemaking and other financial issues to state public utility commissions.
- Community leaders and the public may not appreciate the potential value of privatization or the range of privatization options, and may lack the expertise needed to evaluate these options.
- Privatizers may lack the financial resources to engage in certain privatization activities, and may require special incentives to do so.
- Privatizers may be reluctant to enter certain markets altogether, particularly if the ability to earn a profit is constrained by economic or regulatory forces.

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[2] See Edward W. Limbach, "Privatization of America's Water Infrastructure: A Century of Progress," a paper presented at the Annual Conference of the American Water Works Association, San Antonio, Texas, June 9, 1993, 2; and U.S. Environmental Protection Agency, *Proceedings of the National Leadership Conference on Building Public-Private Partnerships* (Washington, DC: U.S. Environmental Protection Agency, 1988).

- Local politicians may not view the privatization of municipal services as in their best political interest.

Process Barriers

The *process* of privatization can appear to be very daunting, and in itself is probably a barrier to implementation in some cases. Consultant, legal, and regulatory fees associated with complex institutional processes may be a related barriers. The Petaluma, California case provides a detailed description of the process in that particular jurisdiction.[3]

Meeting the federal and state process requirements has delayed implementation of the Petaluma project and added to its up-front costs.[4] Privatizers usually want to finalize agreements quickly because of large investments made in the preliminary negotiations, cost analysis, engineering plans, and so on. On the other hand, in such large scale projects, protecting the public's interest also is a critically important and time-consuming task. Short-cuts could lead to costly disputes in the future.

Process barriers may be manifested in the capacity of municipalities to engage in privatization. Specifically, municipalities may lack incentives to improve operational efficiency, and/or the expertise to design a privatization contract that protects their interests.[5] Municipalities must build expertise in the area of contract design and negotiation to offset the strategic advantages now held by private firms. This final point applies to all forms of privatization and cannot be overemphasized. Other significant barriers to privatization discussed below are cost and rate impacts, financial disincentives, and the prospect of economic regulation by the state.

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[3] California-American Water Company, *Change of Organization for the Santa Margarita Water District,* a report prepared for the Local Agency Formation Commission (January 16, 1995), 11.

[4] Interviews with William Hargis, Engineer and Warren Salmons, City Manager of Petaluma, California on April 26, 1995.

[5] Ibid.

Privatization in many ways reflects a complex series of negotiations, not only between local governments and their privatizers, but among these parties and federal and state regulatory agencies. Some of these negotiations take place outside of public scrutiny and do not produce a public record for analysts to study. For the process to be successful, parties must have adequate resources to participate in privatization negotiations effectively. All parties also must negotiate in good faith so that the result is sound and well supported.

Above all else, perhaps, privatization requires willing and satisfied buyers and sellers. Not every potential privatization project becomes a reality because these and other basic conditions are met. Even when privatization seems feasible, implementation is almost always complex. As experience with privatization grows, some of the complexity of the process may diminish.

Privatization in Petaluma

"The statutory Change of Organization proceeding will occur in four progressive steps to ensure full public input, analysis, oversight and regulation: (1) initiation by petition of resident voters; (2) approval of dissolution terms and conditions by [the Local Agency Formation Commission]; (3) protest hearing proceedings by the Conducting Authority; and (4) proceedings to wind up the affairs of SMWD [Santa Margarita Water District] by the successor agency. The CPUC [California Public Utilities Commission] proceedings also occur in progressive phases of written briefings, staff analysis, public hearings and oversight, not only by customers and other members of the public and the full-time professional staff and members of the CPUC, but also by the statutorily created and funded full-time professional staff of the public interest Division of Ratepayer Advocates ('DRA')" (California-American, *Change of Organization,* 1995).

Financial Barriers

The financial barriers to privatization can be significant. For the nation's largest water and wastewater systems, full privatization is unlikely in the foreseeable future given vast capital requirements and the seemingly impossible task of arriving at a sale price fair to all parties. Valuation of assets and services is a key part of the privatization process, and a potential implementation barrier. Both the United Nations and the World Bank have emphasized the critical role of valuation in

the privatization of state-owned enterprises.[6] The Bank's Kikeri notes that valuation is not a science, and that too great an emphasis on valuation can be problematic and cause serious delays to privatizing state-owned enterprises.[7] In the U.S., valuation also is a potential barrier to privatization arrangements involving asset sales.

Financial theory suggests that for privately owned firms, the competitive marketplace for stocks is the economically desirable and efficient way to determine the value of a company. However, municipalities do not issue stock. They also use accounting systems that can vary significantly from those used by private firms. Financial valuation is easier for municipal water and wastewater systems using "enterprise" accounting, which is similar to accounting methods used in the private sector. For all municipalities, however, understanding the value of city assets and the value of the privatization opportunity to the privatizer are critical considerations.[8] Public entities with little equity may tend to underestimate the value of their assets.

Various methods can be used to determine the value of utility assets. The valuation process is made especially difficult by the accounting practices (or lack thereof) practiced by smaller water and wastewater systems. Inaccurate or incompatible record keeping systems can delay project implementation. In several of Philadelphia Suburban's acquisitions, for example, consultants were hired to help reconstruct all of the accounts from day one for the systems in order to arrive at a "fair market value" for the Pennsylvania Utility Commission. According to company officials, the process was difficult and costly. In many cases of privatization, purchase prices are negotiated on the basis of very limited documentation of

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[6] United Nations, *Accounting Valuation and Privatization* (New York: United Nations, 1993). See also, Coopers & Lybrand Deloite, "Implementing Privatisation," OECD East-West Accounting Issues Conference in Paris, France (September 1990).

[7] Sunita Kikeri, et. al., *Privatization: The Lessons of Experience* (Washington, DC: The World Bank, 1992), 62.

[8] "Privatization Tips for Public and Private Interests," *Pipeline* 2, no. 6 (October 1991): 3.

historical costs. Some commission staff members have developed benchmarks based on comparable sales to evaluate purchase prices and augment other valuation methods.[9]

The methods can generate dramatically different values. The replacement-cost-less-depreciation method, which is based on a construction cost index (such as the Handy Whitman Index) or an engineering cost analysis, will typically produce a much higher value than the original-cost-less-depreciation method, which is similar to the calculation of a regulated utility's rate base (see table 5-1).[10] Regulated utilities may be constrained by the use of a ratebase oriented method, unless regulators are authorized and inclined to provide acquisition adjustments for a purchase price higher than the book value of the utility assets.[11] Interestingly, while most commissions will not allow the replacement-cost-less-depreciation method because it tends to raise the price and subsequent rates, in the two Ohio *municipalization* cases, Washington Court House and Marysville, the Ohio Water Service Company used the method with the approval of the affected cities.[12]

Methods of Utility Asset Valuation

- Market value or fair market value
- Original cost less depreciation or rate base
- Net book value
- Discounted cash flow or income
- Discounted earnings
- Replacement cost less depreciation
- Comparable sales of other systems
- Independent appraisal of assets

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[9] For example, one staff member reported that most water system acquisitions involved a purchase price of $200 to $500 per service connection.

[10] Ibid., 39. The method also is referred to as the replacement-cost-new-less-depreciation method.

[11] Edward W. Limbach, "The Future of Public/Private Partnerships for Water Infrastructure," in *Proceedings of the Ninth Biennial Regulatory Information Conference* (Columbus, OH: The National Regulatory Research Institute, 1994).

[12] Interviews with Walter Pishkur, President, Ohio Water Service Company in March 1995.

TABLE 5-1
EXAMPLE OF THE RATEBASE VALUATION PROCESS

Account	Value
Utility plant in service	$41,400,000
Accumulated depreciation	(9,600,000)
Net utility plant	31,800,000
Construction work in progress	2,200,000
Contributions in aid of construction	(12,500,000)
Ratebase	$21,500,000

Source: Edward W. Limbach, American Water Works Company.

Several of the methods are particularly difficult to apply in terms of placing a value on long-held public assets. For example, analysts found the income approach to be inappropriate for use in the Miami Conservancy District case because "the facility is government-owned and has a non-profit objective; as a result the facility does not generate an 'income' to discount under the income approach."[13] In the valuation of the district's Franklin Area Wastewater Treatment Plant, the consultant used the "fixed asset net book value," as illustrated in table 5-2. This methodology frequently is accepted by utility regulators, as well as the municipalities involved in asset sales.

The subject of financial valuation is important to the future of privatization. The U.S. Army Corps of Engineers Institute for Water Resources has sponsored preliminary research on the development of a user-friendly computer model for estimating the value of wastewater

[13] Raftelis Environmental Consulting Group, *Feasibility Analysis for Alternative Ownership and Management of The Franklin Area Wastewater Treatment Plant* (October 26, 1993), 39.

TABLE 5-2
NET BOOK VALUE METHOD OF ASSET VALUATION

Placed in Service	Asset	Orig. Life	Rem. Life	Original Cost	Adjusted Cost	Accumulated Depreciation	Net Book Value
1971	Piping	50	28	$262,318	$262,318	($115,420)	146,898
1971	Clarifiers	50	28	34,564	34,564	(15,208)	19,356
1971	Mechanisms	30	8	100,000	100,000	(73,333)	26,667
1971	Aeration basins	50	28	100,780	100,780	(44,343)	56,437
1971	Aerators	30	8	75,000	75,000	(55,000)	20,000
1971	Aerators	30	8	62,900	62,900	(46,127)	16,773
1971	Clarifiers	30	8	155,000	155,000	(113,667)	41,333
1971	Mechanisms	30	8	45,000	45,000	(33,000)	12,000
1971	Chlorinator	30	8	25,281	25,281	(18,539)	6,742
1971	Outlet channel	30	8	6,750	6,750	(4,950)	1,800
1971	Pumps	30	8	40,000	40,000	(29,333)	10,667
1971	Electrical	30	8	109,156	109,156	(80,048)	29,108
1971	Primary building	30	8	50,090	50,090	(36,733)	13,357
1971	Secondary building	30	8	25,000	25,000	(18,333)	6,667
1971	Site preparation	30	8	77,400	77,400	(56,760)	20,640
1971	Painting	30	8	15,000	15,000	(11,000)	4,000
1971	Instrumentation	30	8	50,000	50,000	(36,667)	13,333
1971	Fence	30	8	12,300	12,300	(9,020)	3,280
1971	Clear Creek Lift Station	30	8	25,050	25,050	(18,370)	6,680
1971	Bridge and road	30	8	198,231	198,231	(145,369)	52,862
1971	Land	na	na	187,500	0	na	0
	Subtotal			1,657,320	1,469,820	(961,220)	508,600
1985	Piping	50	42	427,072	427,072	(68,331)	358,740
1985	Clarifiers	50	42	56,273	56,273	(9,004)	47,269
1985	Mechanisms	30	22	162,807	162,807	(43,415)	119,392
1985	Aeration Basins	50	42	164,077	164,077	(26,252)	137,824
1985	Aerators	30	22	122,105	122,105	(32,561)	89,544
1985	Aerators	30	22	72,987	72,987	(19,463)	53,524
1985	Clarifiers	30	22	252,351	252,351	(67,293)	185,057
1985	Mechanisms	30	22	73,263	73,263	(19,537)	53,726
1985	Chlorinator	30	22	41,159	41,159	(10,976)	30,183
1985	Outlet channel	30	22	10,989	10,989	(2,931)	8,059
1985	Pumps	30	22	65,123	65,123	(17,366)	47,757
1985	Electrical	30	22	177,713	177,713	(47,390)	130,323
1985	Primary building	30	22	81,550	81,550	(21,747)	59,803
1985	Secondary building	30	22	40,702	40,702	(10,854)	29,848
1985	Site preparation	30	22	126,012	126,012	(33,603)	92,409
1985	Painting	30	22	24,421	24,421	(6,512)	17,909
1985	Instrumentation	30	22	81,403	81,403	(21,708)	59,696
1985	Fence	30	22	20,025	20,025	(5,340)	14,685
1985	Clear Creek Lift Station	30	22	40,783	40,783	(10,875)	29,908
1985	Bridge & Road	30	22	230,910	230,910	(61,576)	169,334
1985	Land	na	na	312,500	0	na	0
	Subtotal			2,584,225	2,271,725	(536,735)	1,734,990
1989	Various plant improvements	30	26	4,000,000	4,000,000	(533,333)	3,466,667
1991	Various plant improvements	30	28	1,100,000	1,100,000	(73,333)	1,026,667
1991	Land	na	na	200,000	0	na	0
1992	Laboratory addition	15	14	17,500	17,500	(1,167)	16,333
1993	Laboratory addition	15	15	17,500	17,500	0	17,500
	Subtotal			5,335,000	5,135,000	(607,833)	4,527,167
	Grand Total			$9,576,545	$8,876,545	($2,105,789)	$6,770,756

Source: Raftelis Environmental Consulting Group, *Feasibility Analysis for Alternative Ownership and Management of The Franklin Area Wastewater Treatment Plant* (October 26, 1993), 39.

systems.[14] The purpose of the model is to calculate the present value of future cash flows adjusting for system size, location, and other variables. Other valuation models that are useful to purchase price negotiation also may emerge.

Political Barriers

Writing about emerging competition and structural reform in the electricity industry, Kenneth Costello complains about the "sacred-cow status" retained by publicly owned utilities and their "dismal track record at promoting, let alone accommodating, competition.[15] The same criticisms sometimes are levied at the water utility industry. Water seems to be the most sacred of the sacred cows that governments can control. The politics of ownership are a large part of water politics.

The political barriers to privatization are the most difficult to analyze and overcome. Political opposition can be based on genuine concern about whether privatization will yield appreciable benefits to the community; it also can be based on *perceptions* that are not well founded. As mentioned throughout this report, most political opposition boils down to the issue of *control.* The Ernst & Young study prepared for Seattle used the term "organizational culture" in referring to this barrier, which is especially noticeable for municipal water utility managers:

> An important issue with respect to privatization is the observed need of [water managers] to be assured that they have control over all aspects of the operation. [This] is not unique to the Seattle Water Department. In general, privatization alternatives have been far more readily accepted around the country for facilities relating to wastewater discharge than to drinking water supply. This is understandable in the context of the organization's primary mission and overriding responsibility: providing safe drinking water. . . The privatization alternative is viewed by some

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[14] G. Richard Dreese and Edward A. Pierce, *PC: FINPACK: Documentation Report* (Fort Belvoir, VA: U.S. Army Corps of Engineers Institute for Water Resources, 1993).

[15] Kenneth W. Costello, "Freeing the Bonneville Power Administration," *Public Utilities Fortnightly* (September 1, 1992).

> in the Department as threatening [the integrity of its mission] and the ability to ensure highest standards of water quality. Whether this fear is justified, the Department may well have reasons inherent in its culture which will cause it to view the risks of privatization with great concern and its benefits with skepticism.[16]

Political barriers include deeply felt ideological opposition to private involvement in public affairs, as well as practical opposition based on threats to jobs (in the case of labor unions) or votes (in the case of politicians). Privatization affects the distribution of political power. Local politicians are unlikely to favor privatization unless it enhances their government careers. It should come as no surprise that competition can be threatening, especially to those who are uncertain about their capacity to compete.

Labor issues can be particularly sticky during the course of privatization. Former utility regulator-turned-governor Christine Todd Whitman recently encountered labor's resistance to privatization when she announced plans to privatize the New Jersey's motor vehicle field services.[17] The plan would reprivatize about half of the state's field offices; the other half already are privately operated. Whitman expects the plan to save the state $4 million annually. While employees would retain their jobs, reductions in salaries and benefits are expected. In response, more than 300 workers staged a "sick-out" in protest.

Labor opposition to privatization in the water and wastewater fields has been similarly strong. Labor's fears are well founded: European privatizers reduced labor expenses by fifty percent or more, in part through the expanded use of "unattended facilities."[18] Similar results are appearing in U.S. privatization arrangements. In Indianapolis, for example, public

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[16] Ernst & Young, *Study of Seattle Water Department Tolt Filtration Plant* (August 17, 1993): VII-2.

[17] "Motor Vehicle Workers Protest Privatization in New Jersey," *The Indianapolis News* (April 20, 1995).

[18] Alan Manning, EMA, "Changing the Way We Do Business," a presentation at the Strategic Research Institute's conference on public-private partnerships (1994).

employees were reduced from 322 to 196 following the privatization of the city's wastewater facilities.[19]

Labor unions do not provide the only source of opposition to privatization. Selling the idea to voters and ratepayers can be especially difficult because the privatizers may not be able to promise lower utility bills to customers. Improved efficiency does not necessarily result in lower rates. Removing governmental subsidies usually has the effect of raising rates. The rates of privately owned utilities are generally higher than those of publicly owned utilities. Typically, the differential is explained by the higher revenue requirements of privately owned utilities because of taxes; the lack of subsidization, grants, and loans; and the regulatory mandate to charge customers for the full cost of service plus a reasonable return on invested capital. Ideological and theoretical support for privatization sometimes gives way to the political realities associated with rate increases.

Privatization and Jobs

"The impediment to privatization is fear over job-loss. City managers and union representatives are wary of the loss of jobs which may result from contract bidding among for-profit companies, each competitively driving for productivity improvements. Once the reality of taxes, needlessly high to subsidize water rates or featherbed municipal jobs, becomes conspicuous to voters, mayors and city managers will choose political goodwill over a few jobs in the water department" *(Management Practice Bulletin,* 1994).

For any given jurisdiction at any given time, the political climate may or may not be conducive to privatization or particular privatization alternatives. Monitoring the political climate from the inception of a privatization proposal through actual implementation is important. Public opposition can be an insurmountable barrier to privatization, particularly in jurisdictions where citizens can vote their preferences through referenda. Even without the opportunity for direct approval or disapproval, citizens can vote out incumbent politicians who do not carry out citizen wishes. Many of the privatization cases and all of the municipalization cases described in chapter 4 involved a significant degree of local politics.

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[19] "Indy Sewage Contract is a Success," *Privatization Watch* no. 221 (May 1995).

Not all local officials are up to the task of trying to overcome local opposition to privatization from labor unions, ratepayers, and other groups. The tenacity of a few very visible U.S. mayors, including Giuliani of New York and Goldsmith of Indianapolis, has clearly given privatization a "boost."[20] Some politicians have found ways to overcome political barriers, and even to use privatization to advance their political careers. The role of political and policy entrepreneurs in advancing privatization in general and within certain jurisdictions should not be understated.

In addition, some specific strategies for overcoming the political barriers to privatization have been identified:[21]

- Educate the public sector to accept tax savings and profits as a necessary incentive for investors.
- Convince federal and state legislatures, and the general public, that public-private partnerships are not a selling of public assets and that partnerships can involve design, construction, operation, and maintenance.
- Acknowledge that each party participates in a public-private partnership for diverse reasons.
- Establish more and better communication between the environmental and financial communities so that roles and responsibilities can be assigned.
- Target small communities with information, education efforts, and demonstration projects.
- Advertise successful public-private partnerships and share information.

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[20] "Motor Vehicle Workers Protest Privatization in New Jersey."

[21] Adapted from U.S. Environmental Protection Agency, *Proceedings of the National Leadership Conference on Building Public-Private Partnerships* (Washington, DC: U.S. Environmental Protection Agency, 1988), 19-20.

Public support for a public-private partnership also can be facilitated by: (1) forming a citizen committee to help oversee the partnership process and express community concerns; (2) using the media to build a positive image of the private partner; (3) offering job guarantees to current public employees; and (4) sharing profits between the private partner and the host community.[22] A properly designed system of public oversight may be one of the most effective responses to the political barriers to privatization.

Policy Barriers

Many of the most significant barriers to privatization are institutional and legalistic in character. Although privatization has received considerable lipservice from politicians at all levels, a number of policies perceived as antiprivatization remain "on the books." These policies are designed to protect taxpayer investments in an extensive public infrastructure. The wide range of public policy issues related to privatization is summarized in table 5-3.

Federal Policies

Federal policies have had a significant impact on privatization activity in the United States. The privatization literature emphasizes the federal role because of a widespread belief that federal policies have made private ventures into the water and wastewater fields unnecessarily difficult and costly, if they occur at all. In general, the policy barriers to privatization are more formidable for sales of assets than for contracts. A number of specific federal barriers to privatization have been identified:[23]

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[22] U.S. Environmental Protection Agency, *Public Private Partnerships for Environmental Facilities: A Self-Help Guide for Local Governments* (Washington, DC: U.S. Environmental Protection Agency, 1990), 11.

[23] Harvey Pippen, "Overcoming Barriers to Public-Private Partnerships," *Public-Private Partnerships Bulletin* 4 (June 1989): 4-5; and *Bond Counsel* (June 8, 1990): 4 (regarding private-activity bonds).

TABLE 5-3
PUBLIC POLICY ISSUES RELATED TO PRIVATIZATION

Finance Procedures

- Does the state, or a political subdivision thereof, have the authority to issues bonds for purposes of financing the acquisition and/or construction of water and wastewater treatment facilities by a private party?
- Would the issuance of bonds for such purposes be subject to limitations or procedures relating to public debt imposed by the state's constitution?
- Are private-activity bonds available legally for financing of privatization transactions involving water or wastewater utility service?
- Are private-activity bonds actually available for purposes of such financing (that is, are applicable quotas or allocations limited or over-subscribed)?
- Under state law, do public authorities or other governmental entities have the authority to enter into long-term contracts for water and wastewater treatment and disposal services?
- Can a present governing body of a public authority contractually bid future government bodies for such services?
- Under a contract between a public authority and a private party, can or must payment for services be limited to a special source, fund, or revenue stream?
- Will service contracts be characterized as "public debt" under state law, thereby requiring compliance by public authorities with certain constitutionally-imposed limitations or procedures, prior to entering into such contracts?
- Under such service contracts, will a public authority's contractual obligation to pay be subject to annual appropriation of funds in its budgeting process?
- May such contracts be entered into on a "take-or-pay" basis?

TABLE 5-3 (continued)

Assessment of User Charges
• To provide revenues for amounts due under contracts with private party owner/operators, are public authorities authorized to assess user charges? • Is the amount of such assessment limited by state law? Could it be high enough to cover all debt service on bonds used to finance water and wastewater treatment facilities, as well as the operating and maintenance expenses of such facilities? • Is the public authority's contractual promise to assess charges for such purposes beyond the scope of its authority or a lending of its credit? • Is an assessment for such purposes a legitimate service charge or a tax?
Special Procurement Issues
• To what extent do state and local procurement laws apply to the construction or operation of water and wastewater treatment facilities? • Do such laws require a certain selection process for the owner/operator of such facilities? • Do such laws require competitive bidding procedures for construction contracts under a privatization approach? • Do such laws restrict the terms of the service contract between a public authority and owner/operator of such facilities? • Do such laws apply to the future acquisition of the contemplated facilities by a public authority? • What is the impact of state and local laws on labor contracts and public health during the construction and operation of water and wastewater treatment facilities? • What state and local land-use and construction statutes, regulations, and ordinances apply to the construction or operation of water and wastewater treatment facilities?

TABLE 5-3 (continued)

Regulatory Issues
• What is the extent of jurisdiction, if any, of the state public utility commission over the construction and operation of a water and wastewater treatment facility; over the terms of a service contract between a public authority and the private owner of a facility; and over the contract rate charged by the private owner under the service contract?
• Does state utility law require obtaining any document, permit, certificate, or authorization prior to construction or operation of such facilities?
• Do existing environmental, health, or other federal or state permits (for example, NPDES permits) affect the private-sector ownership of water pollution control facilities?
Taxation Issues
• Is there an exemption from payment of state ad valorem (real and personal property) taxes available for privatization purposes?
• If available, can such exemptions be authorized at the local level, or must they be authorized at the state level?
• How difficult is procurement of such an exemption (that is, is it a major or minor undertaking)?
• Is there ad valorem property tax liability with respect to the privatization service contract itself, entered into on a "take-or-pay" basis?
• Is there a state sales and use tax exemption for purchases of construction materials, etc., allowed for the privatization transaction?
• If available, can such an exemption be authorized at the local level, or must it be authorized at the state level?
• How difficult is procurement of such an exemption (that is, is it a major or minor undertaking)?

TABLE 5-3 (continued)

Miscellaneous Legal Issue
• Does a public authority have the power to mandate that its residents hook up to the system?
• Do public authorities have the authority to convey existing water and wastewater treatment facilities to private parties? If not, what procedures should be followed?
• Do public authorities have the authority to contract for future purchase of water and wastewater treatment facilities from private party owners? If so, what form must such contracts be (for example, an option to purchase or a commitment to purchase)?
• Do public authorities have an appropriate wastewater use ordinance that, among other things, controls the quality of influent into the system?
• Can a municipality use its powers of eminent domain to take the completed facility from a private owner? Can a municipality waive its power to do so?

Source: George A. Raftelis, "Legal Issues for States Related to Privatization," a presentation at the National Workshop on Financing Strong State Water Programs in New Ways sponsored by the U.S. Environmental Protection Agency in Denver, Colorado (April 1989). Note: The term "industrial-revenue bonds" was replaced with the term "private-activity bonds."

- Environmental regulations can impose restrictions on the use and disposal of publicly owned property funded with federal grant dollars. For example, a project must reimburse the U.S. Treasury for amounts equal to the grant received if the publicly owned facility should take on a private partner. This reimbursement would be based on the "fair market value" and without consideration for depreciation.

- Intergovernmental directives, such as the Office of Management and Budget's Circulars, establish another layer of legal barriers. Circular A-102, for example, requires that federally funded projects remain "separate and identifiable." This requirement is reflected in EPA grant regulations.

- Restrictions also are found in environmental laws. The State Revolving Loan Fund (SRF) provisions of the Clean Water Act, for example, specifically prohibit loans to *privately* owned treatment works; SRF loans can only be made to *publicly* owned treatment works.

- The federal tax code contains numerous restrictions on the benefits that might accrue to a private party working with or for a private enterprise. The 1986 Tax Reform Act had a chilling effect on capital improvement projects when it reduced accelerated depreciation [by repealing the investment tax credit].

- The classification of private-activity bonds is considered a major barrier to public-partnerships. The tax code classifies bonds as private-activity bonds if more than 10 percent of the proceeds are used by private business and more than 10 percent are payable from, or secured by, payments or property used by the business.

- The tax law also provides that not more than 5 percent of a tax-exempt bond issue's proceeds can be loaned to a private person or used for facilities deemed unrelated to the public purpose of the issue.

- Private-activity bonds are subject to a variety of restrictions that do not apply to government bonds. They are subject to the individual and corporate alternative minimum tax, ineligible for the small-issuer arbitrage rebate and bank interest deduction exceptions, and in some cases covered by state volume caps on the issuance of tax-exempt bonds. Such bonds cannot be advance refunded, and they are subject to cost-of-issuance limitations.

The two federal policy barriers that stand out are the provisions attached to grants and loans, and various provisions in the federal tax code. The federal government historically played a significant role in funding wastewater treatment projects because of interstate and downstream water quality concerns.[24] One consequence of the greater federal involvement in the wastewater industry is the stifling of private-sector investment in this area. In the past, low-cost financing for water and wastewater projects through sources like state revolving

[24] Michael Deane, "Background Information on U.S. Environmental Protection Agency Initiative to Increase Private Investment in Municipal Wastewater Treatment Facilities," a paper presented at the conference on Public-Private Partnerships, New York (March 29, 1994).

funds has made it very difficult for the private sector to compete with public financing programs, although emerging policies may address this barrier.[25]

The widespread dependence on federal grant money has made it very difficult to introduce a private role to the water, and especially wastewater, sectors. Utility facilities cannot be sold to the private sector without reimbursement of construction grants and other funds to the federal government. Many municipalities and their private partners simply cannot afford to privatize because they cannot afford to repay the federal government's investment in their infrastructure. A grant recipient cannot encumber the title to a funded facility, or sell the facility without repaying the federal funds. The need for large capital investments in wastewater facilities, and the constraints on federal funding, have heightened interest in overcoming these barriers. The Indianapolis and the Miami Conservancy District cases are U.S. EPA demonstration projects designed in part to find ways of overcoming barriers to wastewater treatment privatization.

After the 1986 Tax Reform Act, private investors also may have lost the incentive to negotiate partnership projects because of reductions in the availability of tax-exempt financing of private-sector investments. Tax benefits available before the 1986 reforms could make privately-financed projects 20-40 percent less costly than publicly-financed projects; after 1986, these savings were cut by half or more.[26] The investor-owned water industry has spent considerable effort on a campaign to overturn one particular tax code provision, the tax on contributions in aid of construction.

According to IRS definitions, bonds issued by municipal entities on behalf of private sponsors are considered private-activity bonds (replacing industrial revenue bonds or industrial development bonds).[27] Tax laws and rules limit the types of projects for which tax-exempt

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[25] Compton, "Lack of Incentives," 6, 7.

[26] Ronald D. Doctor, "Private Sector Financing for Water Systems," *American Water Works Association Journal* 78 (February 1986): 47-48; and David Seader, Privatization: An Emerging Management and Financing Trend," *Water Engineering and Management* (March 1989): 44.

[27] George W. Davies, Use of Tax-Exempt Bonds to Finance Water System Capital Expenditures," a paper presented at the SRI Conference on Public-Private Partnerships, New York , March 30, 1994.

bonds can be used, set a volume ceiling on the principal amount of bonds that states can issue, and place a number of procedural restrictions on the issuance of bonds. States may need to adopt procedures for volume-cap allocation, which is needed to gain tax-exempt status for industrial revenue bonds for environmental projects implemented by the private sector.[28]

Finally, federal tax policy also limits the time period allowed for procurement contracts entered by public entities using tax-exempt financing, such as private-activity bonds. Contracts are limited to a three-year time period plus two one-year extensions. This provision can discourage private involvement in facilities for which efficiency improvements may take more than a few years to materialize, thereby limiting profitability in the short term. In sum, although private financing still may be attractive in some cases, the loss of tax incentives and related constraints remain one of the most frequently cited barriers to privatization.

State Policies

Several states have statutory provisions that affect the privatization activities of local governments. Some state statutes specify the process by which local communities can implement privatization, including procurement procedures. A select sample of statutes for California, Kentucky, Missouri, New Jersey, and Texas are provided in appendix E.

Some state statutes essentially enable local governments to engage in privatization agreements. In Texas, all eligible cities may contract to privatize as recommended by the board of utility trustees and authorized by the city. In Utah, the political subdivision must give notice of its intent to contract. The notice must give a brief summary of agreement provisions and the time and location for filing a petition to vote on the contract.

In Kentucky, second, third, fourth, fifth, and sixth class cities may sell, convey, rent or lease their water system after receiving a majority vote from those voting in a special election to address such a matter (Section 106.200). Water districts and municipalities have the power of eminent domain (Section 106.220). All political subdivisions may contract to sell assets, design, construct, operate, maintain, finance or any combination of the above, as well as enter

[28] *Resources* 5, no. 4 (Fall 1994), a publication of the Ohio Water Development Authority.

into service agreements. Prior to entering into contracts or service agreements, the political subdivision must provide notice and hearings (Section 107.720 and 107.730).

Requirements of the California Privatization Act (Government Code S. 54253) are among the most specific in terms of detailing the privatization process:[29]

- Privatizers must be selected through a competitive (but not low bid) process.
- The local agency must evaluate project design, capacity, financial feasibility; compare costs to other conventional financing methods; and find that the project's cost will be equal to, or lower than, conventional financing.
- Noticed public hearings regarding the proposed privatization agreement must be held.
- A contingent service agreement must be adopted by ordinance, subject to referendum and an exemption from the California Public Utilities Commission.
- The local agency must retain ownership of any treated effluent from the project that is not consigned to an outfall sewer but is made available for commercial or agricultural use.
- The privatization agreement shall be subject to the state's prevailing wage laws.
- The agreement must address the effect of the privatization project on agency employees normally involved in the operations.
- The local agency must find that the selected privatizer has requisite expertise and personnel.
- The agreement must contain provisions to ensure that the privatization project is operated to meet any applicable federal or state water quality standards or other laws.

In California, potential privatizers must apply for an exemption from regulation from the California Public Utilities Commission, as discussed in chapter 6. Other states may have similar provisions for exemption.

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[29] Adapted from Petaluma case. See appendix A.

Prior to revisions enacted in mid-1995, New Jersey law also specified detailed procedures for negotiating, creating, and implementing a contract for water or wastewater services with a private firm. The statute required notice, review periods, publications, and review of privatizers. The statute allowed the Division of Rate Counsel, as a representative of the public, to charge the political unit for the expenses associated with a rate hearing to set the contract rates (58:26-12); any renegotiation also required a hearing. Contracts were required to address: the risks associated with financing and construction; the risks associated with operation and maintenance; risks associated with acts of nature; defaults and termination of the contract; performance reporting and auditing procedures; renegotiation intervals; adverse affects on government employees; and proposed rate formulas (58:26-15). The 1995 legislation made it easier for cities to enter into public-private partnerships in the water and wastewater areas.

Incentive Initiatives

In the 1990s, government downsizing and privatization continue to be relatively prominent themes for the federal government. Congressional elections in 1994, the Republican *Contract with America*, and draconian efforts to reduce the federal budget deficit have reinforced the trend toward redefining public and private-sector roles and responsibilities. Privatization of many traditional governmental services, including municipal utility services, appears to figure prominently in these political trends. Several initiatives have been launched to "correct" federal legislative and administrative policies viewed as antiprivatization.

Federal Initiatives

In 1992, President Bush signed Executive Order 12803 on *Infrastructure Privatization* to initiate regulatory and policy changes that have a significant potential to increase investment in environmental facilities.[30] The purpose and scope of the order was to: (1) assist local privatization initiatives; (2) remove federal regulatory impediments to private-

[30] *Executive Order* No. 12803 (May 4, 1992).

sector involvement; (3) increase state and local governments' proceeds from privatization arrangements by relaxing federal repayment requirements; and (4) protect the public interest by ensuring that privatized assets continue to be used for original purposes and that user charges will remain consistent with current federal conditions that protect users and the public.[31] The order was not followed by a specific plan for implementation, but it did serve as a catalyst for much discussion on privatization.

In 1993, President Clinton signed Executive Order 12875 on *Enhancing the Intergovernmental Partnership,* which called on federal agencies to consider "flexible policy approaches" when appropriate in implementing their regulatory responsibilities. In 1994, the President signed Executive Order 12893 on *Principles for Federal Infrastructure Investments,* which applies to federal spending for infrastructure programs in the areas of transportation, water resources, energy, and environmental protection.[32] The specific principles set forth were: systematic analysis of expected benefits and costs, and efficient management, private-sector participation, and encouragement of more effective state and local programs. Regarding private-sector participation, the order reads:

> Agencies shall seek private-sector participation in infrastructure investment and management. Innovative public-private initiatives can bring about greater private-sector participation in the ownership, financing, construction, and operation of the infrastructure programs referred to in section 1 of this order. Consistent with the public interest, agencies should work with State and local entities to minimize legal and regulatory barriers to private-sector participation in the provision of infrastructure facilities and services.[33]

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[31] Source: U.S. Environmental Protection Agency, *Alternative Financing Mechanisms for Environmental Programs* (Washington, DC: U.S. Environmental Protection Agency, 1992), 65.

[32] *Executive Order* No. 12893 (January 26, 1994).

[33] Ibid.

One year later, in response to a Republican threatened regulatory moratorium, Clinton issued a *Regulatory Reinvention Initiative* designed to "reduce burdensome regulation, protect public health and safety."[34] The initiative includes a review of rules and regulations "to identify obsolete regulations that could be better achieved through the private sector, self-regulation or state and local governments" and a review of pending rulemakings to identify those "that can be converted into negotiated rulemakings to strengthen public-private partnerships."[35] The U.S. Environmental Protection Agency continues to seek methods to reduce or remove impediments to public-private partnerships embedded in the agency's grants and permitting regulations. Privatization continues to rise on the federal agenda, particularly in relation to government spending cuts, which could lead to further discussions about removing barriers and providing incentives for further privatizing water and wastewater utility services.

The National Association of Water Companies has actively pursued several changes in federal policies to create a more favorable environment for privatization and promote partnerships that will reduce the need for governmental grants.[36] One effort involves the codification of Executive Order 12803 under the Clean Water Act. Specifically, the investor-owned water industry seeks legislation that would eliminate the requirement to repay federal grant money when privatizing water or wastewater facilities. The industry would also like to see a Clean Water Act amendment that treats public and privately owned wastewater facilities comparably for regulatory and financing purposes. According to one proposed amendment, "the most effective way to encourage an increase in the level of involvement of the private sector in the provision of municipal wastewater services is to provide for the uniform regulation of municipal wastewater treatment plants without regard to whether the wastewater

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[34] *White House Press Release* (February 21, 1995).

[35] Ibid.

[36] Information provided by the National Association of Water Companies in May 1995.

treatment plants are publicly or privately owned or under the control of a public and private partnership."[37]

Another NAWC effort involves modifying or repealing federal provisions that protect rural water associations receiving Farmers Home Administration loans from competition (even if the integrity of the loan is not jeopardized by a change in ownership or operations). Still other initiatives involve proposed changes in Internal Revenue Service regulations, such as the definition and use of private-activity bonds. The water industry advocates extending the allowable time period for operations and management contracts from three years (with two one-year extensions) to twenty years. Finally, as mentioned above, the NAWC has actively sought a repeal of the tax on contributions in aid of construction because the tax is viewed as a constraint on the expansion of privately owned water systems.

State Initiatives

The states also have taken steps to encourage privatization of infrastructure projects. As of 1986, nineteen states had passed comprehensive statutes on privatization, generally making it easier for communities to enter into public-private partnerships.[38] These statutes include provisions that allow local governments to enter into long-term service contracts with private firms, streamline the procurement process and permit negotiated contracts, provide exemptions from local taxes or licensing and recording fees, provide authorization to enter into take-or-pay agreements, grant power for the creation of special authorities to issue debt secured by project revenue or enter into lease and sell agreements, authorize private parties to collect service charges, and create private investment tax credits.[39] As of early 1995, legislative initiatives were launched in several states (including Montana, New Jersey, and Pennsylvania) to make it easier for municipalities to enter into public-private partnerships.

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[37] Senate Bill 1681, "Municipal Wastewater Treatment Facility Private Investment Act of 1993," 103rd Congress, 1st Session (November 18, 1993), introduced by Senator Lautenberg.

[38] U.S. EPA, *Public Private Partnerships for Environmental Facilities,* 12.

[39] Ibid.

One of the most intriguing developments in state policy related to privatization, as mentioned in chapter 4, was the 1994 passage of a Missouri statute that limits the use of eminent domain by cities for the purpose of acquiring public utilities.[40] The legislation was passed in response to the failed attempt by Mexico, Missouri to purchase the privately owned system serving the community. The statute is precise in permitting condemnation only for utility systems having less than 500 service connections. This provision allows for acquisitions of small, nonviable systems. The larger implication, however, is the establishment of a state policy designed to protect the interests of privately owned utilities and their investors.

Some of the state public utility commissions also have become actively engaged in the privatization dialog. The New Jersey Board of Regulatory Utility Commission (BRC) issued a water management task force report in 1993 that involved policy initiatives for both the commission and its affiliate agency, the Department of Environmental Protection and Energy (DEPE). Many of the report's recommendations are directly related to privatization:[41]

- BRC and DEPE should formalize a policy statement to encourage "privatization and/or consolidation" of troubled water systems.
- The Board should also determine on a case-by-case basis whether incentives are needed to induce an acquisition and, if so, what incentives are appropriate.
- BRC and DEPE should continue to work together to identify the most problematic small water systems (whether publicly or privately owned).
- The state should enunciate a clear policy on the formation of new small water companies.
- The state should amend the Water Supply Privatization Act to simplify the "privatization" process and provide municipalities with the flexibility to retain ownership if they so desire.

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[40] Section 71.525 *Missouri Revised Statutes,* 1994. See appendix E.

[41] New Jersey Board of Regulatory Commissioners, *Water Industry: Challenges and Opportunities,* a report of the Water Management Task Force (May 26, 1993), 43-46.

- The BRC should evaluate and if applicable propose rules that would simplify the regulatory ratemaking and financial process.

- The BRC should review the extent to which there is competition for wholesale contracts.

- The state should consider phasing-in the Gross Receipts and the Franchise Taxes on previously untaxed utility revenues as an incentive for private companies to acquire "problem" municipal systems.

- The state should request its Congressional delegation to continue pursuing the modification of the regulatory treatment involving the Internal Revenue Service Tax on contributions in aid of construction.

- The state should provide a public education program to inform developers, investors, lending institutions, and municipal officials about water system viability issues.

- The state should consider legislative measures to allow investor-owned systems to be eligible to participate in existing and proposed state low-interest loan programs for water purveyors.

Observations

Public-private partnerships involve changing roles and responsibilities at various governmental levels, and in the private and nonprofit sectors as well. Each participant can take measures to overcome implementation barriers and provide incentives for privatization activities.[42] As privatization proceeds, new barriers may be presented. For example, some unregulated utility activities may raise antitrust issues. Another important concern is that the expanded use of municipal contracts will invite new forms of political patronage. Many of the so-called barriers to privatization are not simply misguided or misplaced sources of opposition. These barriers may serve legitimate public policy purposes, such as protecting the

[42] See U.S. Environmental Protection Agency, *Proceedings of the National Leadership Conference on Building Public-Private Partnerships* (Washington, D.C.: U.S. Environmental Protection Agency, 1988).

interests and well-being of workers, ratepayers, and taxpayers. In designing policies to overcome barriers and provide incentives for privatization, care should be taken not to overlook the underlying interests and needs of the affected parties and society as a whole.

CHAPTER 6

THE ROLE OF REGULATION

Economic regulation by the state public utility commissions is clearly and consistently considered a major barrier to privatization because regulation is perceived as administratively burdensome and, more importantly, *a threat to profitability.* This view of regulation has been prominently represented.[1] For privatizers, "the rate of return is the key consideration."[2]

Once again, *control* is the central issue. In this particular context, the issue is potential control of local economic activity and ratemaking by state regulators. Considerable anecdotal evidence suggests that many of the water and wastewater privatization agreements recently initiated or now underway were structured to avoid economic regulation by the states.

Regulation as a Barrier

"A very restrictive feature in many states is the inability to remove the privatization transaction from control of the public service commission of that state. As a result, rates of return are strictly monitored. To enhance privatization, provisions need to be made in state laws to buffer profitability from regulation by the public service commission. Profitability would best be regulated under the terms of the privatization service contract" (George Raftelis, 1989).

Avoidance of regulation was a recurring theme in the case studies presented in chapter 4. Arguments in favor of regulation were made only when regulated, investor-owned utilities were the acquiring entity. California-American, for example, cited economic regulation as an advantage in the Petaluma case. Opponents, however, believe that regulation would increase costs and that the community should not surrender control over the destiny of its water system to the state.

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[1] George A. Raftelis, *Arthur Young's Guide to Water and Wastewater Finance and Pricing* (Chelsea, MI: Lewis Publishing, 1989).

[2] R.V. Anderson Associates, Ltd., *Private Sector Participation in Provision of Halifax-Dartmouth Wastewater Treatment Services*, a study prepared for the Province of Nova Scotia, Volumes 1 & 2 (October 1990), 15.

Only about one third of the privatization cases reviewed actually required commission review or approval. In many of the other cases, however, participants in privatization expressed strong sentiments against commission regulation. The process for avoiding regulation was explicit in one particular case. The successful bidder in Petaluma must apply to the California Public Utilities Commission for an exemption from regulation, which is what the city wants. If granted, the exemption will be the first of its kind in California and possibly precedent-setting.[3]

No doubt, abuses of economic power can occur when transferring utility ownership or operational responsibilities from the public to the private sector. Yet the role of economic regulation is rarely addressed in the privatization literature; when the subject of regulation is approached, it usually is treated negatively. Regulation constitutes the continued presence of government oversight and seems antithetical to the goals of divestiture and competitive markets for contracts. In reality, regulatory policies can be used to encourage or discourage privatization activity. In addition, alternative regulatory models can be used to encourage competition and efficiency while protecting ratepayers.

Economic Regulation

Investor-owned utilities, including newly privatized utilities, typically are regulated by the state public utility commissions. Commission jurisdiction (over different kinds of systems) and the scope of commission authority (over different kinds of activities) varies substantially from state to state. Public utilities are regulated because they have monopoly power over captive customers. Many analysts view economic regulation of utility revenues and rates as a barrier to privatization because regulation constrains profitability and does not provide the performance incentives of competitive markets.[4] Many also believe that

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[3] Interview with Michael Hargis, Director of Engineering, Petaluma, in March 1995.

[4] David L. Haarmeyer, *Privatizing Infrastructure* (Los Angeles: The Reason Foundation, 1993); and Raftelis, "Legal Issues."

regulation provides disincentives (or inadequate incentives) to investor-owned utilities for furthering privatization (and consolidation) through mergers and acquisitions.

The Scope of Commission Authority

In 1995, forty-six state commissions regulated approximately 8,752 water utilities; twenty-eight commissions regulated 2,187 wastewater utilities. Commission jurisdiction is summarized in table 6-1; jurisdiction data for each state can be found in appendix D. The commissions do not exercise uniform authority over all of the systems under their jurisdiction. In general, investor-owned utilities are the most comprehensively regulated, although specific areas of oversight vary from state to state. For the different types of water or wastewater utilities under their jurisdiction, the commissions *might* perform the following regulatory functions:

- Determine whether or not a provider is subject to economic regulation.
- Issue certificates of convenience and necessity.
- Issue certificates for major construction projects.
- Approve service territory boundaries and changes in boundaries.
- Approve financial issuances and loans.
- Approve mergers, acquisitions, and other ownership changes.
- Audit financial accounts and management practices.
- Review utility management prudence.
- Evaluate long-term resource management plans.
- Review conservation and drought management practices.
- Impose metering, billing, and disconnection practices.
- Approve revenue requirements, cost allocation, and rate structures.
- Determine an allowed rate of return.
- Review record-keeping and reporting.
- Resolve consumer complaints.

TABLE 6-1
APPROXIMATE NUMBER OF
COMMISSION-REGULATED WATER AND WASTEWATER UTILITIES

	Number of Utilities	Number of Commissions
Commission-Regulated Water Utilities		
Investor-owned	4,178	46
Municipal	1,677	12
Water districts	1,280	8
Nonprofit (including cooperatives and homeowners' associations)	1,617	11
Total	8,752	46
Commission-Regulated Wastewater Utilities		
Investor-owned	1,325	28
Municipal	626	6
Water districts	199	5
Nonprofit (including cooperatives and homeowners' associations)	37	4
Total	2,187	28

Source: *1995 NRRI Survey on Commission Regulation of Water and Wastewater Utilities.*

Note: The state public utility commissions do not regulate water or wastewater utilities in Georgia, Minnesota, North Dakota, South Dakota, or Washington, D.C., primarily because of the limited presence of major investor-owned water and wastewater utilities in these areas.

Commission authority can affect privatization in any number of ways. Establishing an investor-owned utility usually requires certification by the state public utilities commission (in addition to the approval of drinking water quality regulators). Regulatory approval almost always is required for transactions involving a transfer of a regulated utility's assets, including the financial arrangements associated with the transfer and the resulting effect on rates. But perhaps most importantly, privately owned water utilities are subject to revenue requirements regulation, by which allowable rates of return are determined.

Exemption from Regulation

As noted, under current law, privatizers in California must apply to the public utility commission for an exemption from regulation. Otherwise, they may be required to secure a certificate of convenience and necessity from the commission and operate as a public utility. The application to the commission must demonstrate that the contingent application complies with the law. In addition, the commission requires that the local agency engaged in privatization has and maintains certain authorities and powers. Essentially, the state seeks assurances that local regulatory oversight and enforcement will protect the customers of privatized systems from potential monopoly abuse. Specifically, the commission requires that the local California agency has:

- the exclusive authority to establish all rates and rate changes charged to the public;
- approval powers over any proposal of the privatizer to provide new, additional or alternate service to any other public or private entity or to change the service fee paid to the privatizer by the local agency;
- approval powers over the original design and construction of the project, including any changes in design, alterations, or additions to the project;
- approval powers over any changes in ownership of the party or parties subject to the contingent agreement;
- the authority to impose fines and penalties for noncompliance with any provision of the executed privatization agreement, or for failure to provide the service within the time period agreed to in the agreement;

- the authority to ensure that the project is adequately maintained;
- adequate opportunity to monitor compliance with the agreement and to ensure that the project is operated to meet any applicable federal or state water quality standards or other applicable laws; and
- adequate opportunity to amend the agreement in the event of unforeseen circumstances or contingencies, such as flood, earthquake, fire, or other natural disasters or federal tax law changes.

These provisions reflect a belief that comprehensive and specific local authority can substitute for state economic regulation. In this respect, public-partnerships can be "regulated" at the local level, assuming that local governments have the authority, resources, and expertise to carry out this function. Not every state has explicit statutes or rules governing the privatization process. Few probably are as explicit as California about the parameters of regulatory exemption. Nonetheless, the basic principles underlying the California exemption procedure may be reflected in the regulatory policies of many states. In other words, potential participants in privatization agreements should be aware of the possibility that their activities may come close to statutory and administrative definitions of utility activities subject to commission regulation. However, legislative proposals recently initiated in some states explicitly provide for regulatory exemptions and thus a more favorable climate for privatization.

Exemption implies a procedure for determining whether or not private involvement in utility operations constitutes the creation of a utility that should be subject to economic regulation. Beyond exemption, however, is the deliberate structuring of privatization arrangements to *circumvent* the regulatory process. Circumvention may become a cause of concern, particularly if competition and local governmental authority are insufficient to check the potential abuse of monopoly power. In some jurisdictions, public authorities are being created for the express purpose of establishing public ownership and oversight while immediately delegating operational responsibility to the private sector. The newly created system is not commission-regulated unless state statutes specifically provide for this authority. Another means of circumvention occurs when municipalities purchase the privately owned

systems serving them and immediately contract with a private firm for operations. It is conceivable that a private contractor, motivated by the potential to earn unregulated profits, could persuade local officials to follow this course. The creation of unregulated affiliates by investor-owned utilities and certain wholesale arrangements also may constitute a form of circumvention. For their part, local officials may be tempted to circumvent regulation for the purpose of gaining local control over the utility. Although the point need not be overstated, policymakers cannot afford to be naive about the political and profit motives behind regulatory circumvention.

Possible Benefits of Regulation

The prevailing view of regulation as a barrier to privatization, and the considerable energy spent on avoiding the regulatory process, denies the potential benefits of regulation in the expansion of private involvement in the water and wastewater utility industries. Regulation can have a very stabilizing effect on utility finances. Regulation provides some assurances that legitimate utility revenues requirements will be met. Regulation does not guarantee a profit, but it does set an allowable rate of return that many jurisdictional utilities are able to achieve. Regulation requires utilities to accept a degree of regulatory risk, but shields them from other forms of risk, including risks associated with municipal politics at the local level and potentially ruinous competition at the global level.

Economic regulation by the states offers certain advantages over alternative methods of societal control, assuming that societal control is needed. The state commissions have resources and expertise focused exclusively on economic regulation of utility services. Most cities do not have comparable expertise and resources. Commissions demonstrate economies of scale and scope in regulation when compared to decentralized oversight by local governments. While their expertise is grounded in traditional ratebase/rate-of-return methods, the commissions also have responded to the economic and technological changes affecting the utility industries, including emerging competition. The commissions are well equipped to consider complex issues, such as economic efficiency and ratepayer equity. State regulation

generally is less parochial, less political, and less driven by expedience than local regulation.[5] Without significant safeguards, local contracting and oversight can be prone to corruptive influences. It also may be somewhat easier for the states to make politically unpopular decisions. Commission regulation can be more flexible and less arbitrary than regulation imposed through legislative or judicial means. Commission regulation also can be more effective in protecting consumers than antitrust law or other public policy options. New roles for regulatory agencies, such as dispute resolution for contractual agreements, might prove very beneficial as well. In general, state regulation can be used to further various state policy goals, such as efficiency pricing, integrated resource planning, and universal service.

It can be argued that privatization and economic regulation share the common goal of establishing managerially sound and financially viable water and wastewater systems. Strategic use of acquisition and other regulatory incentives already has had a considerable influence on the restructuring of the water industry. Modern public utility regulation ideally encourages utilities to meet least-cost and efficiency goals, and use marketlike methods in the process (for example, competitive bidding). The regulatory process provides policymakers with various tools and incentives for guiding utility performance. In fact, it may be easier to reward investor-owned utilities than unregulated utilities for implementing efficiency and other desirable measures. In theory, regulation can be an agent of privatization by providing positive incentives for the expansion of investor-owned systems. Moreover, regulation can provide a level playing field for emerging markets (or "structured competition," as discussed later in this chapter).

The Regulatory Impact of Privatization

As noted, the bulk of the privatization activity in the United States has been in the area of operation and maintenance contracts. Unless a regulated utility is involved, and the contract is substantial, these agreements are largely transparent to the commissions. Even

[5] It is not suggested, of course, that state commission regulation is entirely free from parochialism, politics, or the desire for expedience.

when a regulated utility is involved, many of the commissions have limited monitoring capability in this area. In general, the commissions only are beginning to be aware of the myriad of privatization activities in their states.

Privatization Activities of Regulated Utilities

Most of the major investor-owned water utilities in the United States are actively engaged in privatization and regionalization through acquisitions of nearby systems. Stringent environmental and public health standards such as those implemented under the Safe Drinking Water Act, despite industry protestations, have provided private water utilities with considerable opportunities for corporate investment and growth. Contiguous systems are especially attractive candidates for acquisition. Some of the state public utility commissions have explicitly encouraged acquisitions by investor-owned utilities as a means of addressing the needs of small utility systems and improving overall industry economies.[6]

American Water Works Company has an aggressive acquisitions strategy. American plans to acquire municipal and other systems that are contiguous to its existing systems. New Jersey-American, West Virginia-American, and Pennsylvania-American are very active in acquiring and privatizing nearby water systems. Since 1983, New Jersey-American has acquired approximately twelve municipal systems (three are presented as case studies in chapter 4). Several large acquisitions by American are pending in commission proceedings throughout the United States. Pennsylvania-American is aggressively pursuing privatization activities throughout the state and has purchased more than twenty systems since the mid-1980s; as of early 1995, the company had plans to close on fifteen water and wastewater systems and had several other pending acquisitions.[7] West Virginia-American is involved in the formation of a large regional water supply system. Philadelphia Suburban, through its subsidiary Philadelphia Suburban Water Company (PSWC), has actively acquired municipal

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[6] A few state commissions (including Connecticut, New Jersey, Pennsylvania, and West Virginia) have the authority to impose mandatory takeovers of problem systems by nearby regulated systems.

[7] Correspondence with Charles W. Johnston dated February 3, 1995.

water systems that are contiguous to the utility's distribution systems. Sources indicate that Philadelphia Suburban's corporate strategy is to acquire as many as twenty systems over the next few years.

Several of the larger investor-owned utilities also are actively involved in providing operations and maintenance services, usually through corporate affiliates. American's affiliate, the American Commonwealth Management Service Company actively markets operations and maintenance services, particularly to water systems having trouble complying with environmental mandates. The private consortium operating the municipal wastewater facility in Indianapolis includes an affiliate of the Indianapolis Water Company. As discussed in chapter 7, some investor-owned utilities have formed partnerships with European firms to compete for contracts. All of these activities present new challenges to utility regulators.

Commission Staff Interviews

Informal interviews with state commission staff members were used to ascertain the extent to which regulators were aware of privatization activities in their states, to gather information on possible regulatory impact, and to identify emerging regulatory issues related to privatization. Only a select number of states were contacted, although they constitute many of the states where water and wastewater utility regulation is significant. Commission staff members were contacted in Arizona, California, Connecticut, Florida, Illinois, Indiana, New Jersey, New Mexico, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Texas, and West Virginia. The interviews provided general information, as summarized in table 6-2.

Commission staff are aware of some privatization activity in the form of both asset sales and contracts, but they also are aware of a substantial amount of municipalization activity. As cities are expanding, regional municipal water systems are being formed. Taken together, the apparent trends in acquisitions by privately and publicly owned utilities suggest that industry consolidation is underway (at least in some parts of the country). In addition, staff members were aware of discussions between jurisdictional utilities and municipalities about privatization opportunities.

TABLE 6-2
COMMISSION STAFF PERSPECTIVES ON
PRIVATIZATION AND MUNICIPALIZATION IN SELECTED STATES

State	Privatization		Municipalization	Comments
	Sales	Contracts		
Arizona	A few	A few	Several small systems are being acquired through municipal expansion.	The commission is not involved prior to the sale, but assumes regulatory oversight after the transaction is completed.
California	A few	A few	Quite a few cases of municipalization of small systems through the use of eminent domain (condemnation). One city took control of a private utility and contracted with another firm to manage the facilities.	Private contractors may need to apply for an exemption from the commission.
Connecticut	None reported	Some	None reported	The commission is concerned about contract provisions and has the authority to void a contract by a regulated utility.
Florida	A few	None reported	Substantial activity through municipal expansion (as many as 30 to 40 cases).	The commission is concerned about valuation and accounting issues, especially the lack of historical investment data.
Illinois	Some	Interest appears to be growing	Some. Some cities are purchasing water wholesale from other cities rather than adding supplies; most are keeping their distribution systems.	All of the larger investor-owned systems have been approached by cities to provide contract services. Some systems have been "sued out of existence" by drinking water regulators.
Indiana	Some	None reported	None reported	The commission's monitoring of privatization activity is limited
New Jersey	Several	Several	A few	The commission reports significant activity. Proposed legislation would ease regulations and exempt engineering firms.

TABLE 6-2 (continued)

State	Privatization		Municipalization	Comments
	Sales	Contracts		
New Mexico	A few	None reported	Substantial activity. The state eminent domain laws are unclear, resulting in intense, long, and unpredictable legal battles over utility condemnation.	Some privatization activity is occurring in the acquisition of small systems, although more examples of municipalization can be found.
New York	A few	Some	Quit a few in the last few years. Most are by agreement because the use of eminent domain is very difficult in New York	The commission's role is somewhat limited in sales of assets, but commission approval is required.
North Carolina	None reported	None reported	Several cases through agreement or territory expansion.	The commission has the authority to review the privatization agreements when utilities request franchise certification.
Ohio	None reported	None reported	A few controversial cases.	Commission staff were unaware of significant activity.
Pennsylvania	Some	Some	Several municipalization cases occurred in the past few years, including the creation of municipal authorities that are aggressively acquiring private utilities.	The commission is concerned about affiliate issues.
South Carolina	None reported	A few	A few through agreement, donation, or threat of eminent domain.	Not a significant level of activity in the past few years.
Texas	None reported	Some	None reported	Privatization activity thus far has had a minimal regulatory impact in terms of commission review.
West Virginia	Some	None reported	Some public service districts have acquired systems or provided contractual services.	Regionalization is occurring through privatization and expanded public service districts. Recent legislation made it easier for public entities to use tax-exempt financing for system expansion.

Source: Authors' construct.

Some state commissions also were contacted because of their jurisdiction over municipal systems and possible commission authority over municipal privatization activities. In general, commission staff had little systematic information about the privatization activities of their regulated municipal systems. Although twelve state commissions have some authority over publicly owned systems, only a few have comprehensive authority (for example, Maine, Montana, New Jersey, Rhode Island, and West Virginia). Only a few specific cases of regulatory oversight were provided. In New Jersey, for example, the Board approved an operations and maintenance contract issued by the City of Hoboken after regulators were satisfied with the proposed local oversight process.[8] The West Virginia commission must approve both asset sales and contracting.[9] Maine reports having some oversight over sales of assets, but none over contracting.[10] Montana reports that it has the authority to approve privatization agreements, but that legislation under consideration would limit that authority. In most states with jurisdiction over publicly owned systems, the scope of authority is very limited. Pennsylvania regulators see privatization agreements after the fact. Similarly, Texas regulators essentially have no authority over municipal privatization agreements.

Commission staff members expressed a number of concerns about what they see as emerging issues related to privatization of water and wastewater utilities:

- Establishing the value of publicly owned assets in the context of acquisitions because of lacking data or incompatible accounting methods.
- Appropriate regulatory and ratemaking treatment of acquisition adjustments.
- Limits on regulatory authority to review purchases and contracts until after implementation.

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[8] The Board's authority to review public-private partnerships was affected by legislation passed in mid-1995.

[9] West Virginia's statute, §24-2-12, prohibits a utility from selling its assets or contracting for services without state consent for reasons of protecting the public interest.

[10] See Title 35A §§ 708, 1101, and 1102 of Maine's Statutes.

- Delegating total operating responsibility to private contractors or utility subsidiaries.
- Ensuring service quality, reliability, and sound utility management under third-party agreements.
- Protecting ratepayers of regulated utilities from supporting the costs (or assuming the risks) associated with the contract ventures of the utility or its affiliates.
- The creation of unregulated public water authorities that assign substantial responsibility to the private sector.
- The capacity of cities or other public entities to provide adequate economic oversight over monopolistic utility operations.
- The potential burden of privatization on commission staff resources, especially for reconstructing books and records, and processing various applications.

Commission staff members in some states viewed privatization with considerable favor because acquisitions by larger utility systems are considered a potential solution for struggling small systems. However, not all commission staff members view privatization as the ideal solution to small-system viability problems.[11] Some regulators also expressed the concern that "privatization looks too good to be true," and that more systematic information is needed about the actual benefits and costs of privatization.

With increasing privatization activity involving investor-owned utilities and other market entrants, commission resources may be affected. Commissions could experience more water and wastewater cases, more frequent cases, and more complex cases (not to mention generic rulemakings, task forces, and special studies). Time spent on regulating the water and wastewater industries cannot be spent on other regulatory matters. Some observers contend, however, that with restructuring and regulatory changes occurring in the electricity, natural gas, and especially telecommunications industries, water regulation may rise in status and priority at the state public utility commissions. With further privatization, it is conceivable

[11] Fred L. Curry, "Public-Private Partnerships," *NAWC Water* (Summer 1994): 16-19.

that regulating water and wastewater monopolies could become a more salient state function. Staff resources for water and wastewater regulation traditionally have been much less than for other areas of regulation, but overtime, this allocation may by necessity change.

Regulatory Implications

Table 6-3 summarizes the regulatory implications of ownership transfers and table 6-4 summarizes the regulatory implications of service contracts based on the current configuration of regulatory jurisdiction and authority in many states. Commission authority probably is best defined when a private or investor-owned utility is directly involved in the transaction, although some states may address other privatization agreements in explicit terms as well. Transferring the assets of a regulated utility almost always triggers regulatory oversight; a new or modified certificate of public convenience may be required. Contracts may be examined to varying degrees. However, broad regulatory powers to review financial transactions, management prudence, and ratemaking may bring some privatization activities under commission scrutiny. New entrants into privatization may be unaware of the potential impact of regulation on various activities. State statutes and commission rules should be consulted carefully whenever jurisdiction and authority issues arise. Given the relatively rapid evolution of privatization policy, finding current information can be a challenge in itself.

Commission Policies Affecting Privatization

Despite the prevailing view of economic regulation as a barrier to privatization, specific regulatory policies can encourage privatization activity, discourage privatization activity, or have no direct or apparent effect. In other words, commission policies vary in the degree to which they increase or decrease regulatory risk for jurisdictional utilities.

Several of the state commissions have conducted targeted studies of water utility regulation and identified specific policies that could play a role in structural and regulatory reform. To foster restructuring and privatization, a 1993 report prepared by the New Jersey Board of Regulatory Commissioners recommended consideration of such incentives as

TABLE 6-3
REGULATORY IMPLICATIONS OF OWNERSHIP TRANSFERS

Origination	Destination	
	To public ownership	To private ownership
From public ownership	Generally not regulated. In some cases, providing utility service outside of municipal boundaries may be regulated by the state commissions.	A certificate of public convenience and necessity may be required, particularly if the acquisition is made by a newly formed private utility. The transfer of assets and financial arrangements probably require approval as well. Acquisition adjustments require a determination of ratemaking treatment.
From private ownership	The transfer of assets and ownership probably requires regulatory approval. Regulators also may want assurances that the transfer is in the public interest. In most cases regulation will not prove to be a significant barrier to the transfer.	Regulatory approval may be required for both utilities in the transaction. The transfer of assets and ownership probably require regulatory approval. It may be necessary to modify the acquiring utility's certificate of public convenience and necessity. Acquisition adjustments require a determination of ratemaking treatment.

Source: Authors' construct.

TABLE 6-4
REGULATORY IMPLICATIONS OF SERVICE CONTRACTS

Service Provider	Service Recipient	
	Publicly owned utility	Privately owned utility
Publicly owned utility	Generally not regulated. In some jurisdictions, utility service outside of municipal boundaries may be commission-regulated.	The contract may be reviewed for prudence and financial terms.
Privately owned utility	Subsidiary activities may be regulated to shield captive customers from risks associated with diversification. Prudence of contracts may be reviewed.	Regulatory approval may be required for both utilities in the transaction. The contract may be reviewed for prudence and financial terms. Subsidiary activities may be regulated to shield captive customers from risks associated with diversification.
Service vendor	Generally not regulated, particularly if contractual procedures and local government authority provides sufficient protection. In some cases, the vendor can appear to behave as a public utility entity, which could trigger regulatory intervention.	The contract may be reviewed for prudence and financial terms. Regulators may want to review contractual terms in relation to the obligation to serve, service reliability, and service quality.

Source: Authors' construct.

acquisition adjustments, ratemaking and tariff reforms, and forward-looking recognition of capital investments.[12] The recommendations also emphasize, however, the need for flexibility, the importance of analyzing impacts on existing and new customers, and the use of appropriate incentives on a case-by-case basis.

A comparative summary of commission policies related to privatization is presented in table 6-5. These policies are organized into three general areas: regulatory methods, regulatory procedures, and regulatory scope. Some policies may be implemented at the discretion of the commissions; others may require legislative authorization. Each approach has advantages and disadvantages. No recommendations are made here, implicitly or explicitly, for any specific regulatory policy or approach.

Regulatory Methods

Traditional methods of costing and ratemaking in a regulatory context can present a barrier to privatization activity. A leading issue related to acquisitions is the difficulty associated with arriving at an acceptable purchase price for assets. As noted in chapter 5, many states value utility assets at their original cost at the time they were devoted to public use, less accumulated depreciation. In Florida, for example, state laws inhibit the Commission's ability to calculate a rate of return for some acquired utility assets due to the lack of historical investment data. Under these circumstances, constructing a ratebase and a rate of return for privatized utilities can be very difficult. Assets of many older utilities may be fully depreciated. As a result, these systems may not be attractive to potential buyers. Buying a system with little or no value in assets would not add to the ratebase of the acquiring utility, thereby limiting the utility's chance to earn a return on its investment.

Acquisition adjustments sometimes are recommended to remedy this dilemma and provide an additional incentive for acquisitions by investor-owned water systems.[13]

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[12] New Jersey Board of Regulatory Commissioners, *Water Industry: Challenges and Opportunities,* a report of the Water Management Task Force (May 26, 1993), 43-46.

[13] Pennsylvania passed an acquisition policy for this purpose in 1990.

TABLE 6-5
COMMISSION POLICIES TO ENCOURAGE OR DISCOURAGE
PRIVATIZATION BY REGULATED UTILITIES

Commission Policies to Discourage Privatization	Commission Policies to Encourage Privatization
Regulatory Methods	
Strict adherence to original costs in valuing utility assets.	Acquisition adjustments and other acquisition incentives.
Traditional ratemaking methods, including an emphasis on historical costs.	Modified ratemaking, including consideration of future costs and cost adjustment mechanisms.
Spatially-determined rates for service.	Single-tariff (or uniform) rates across a regional territory.
Conventional limits on profitability.	Profit-related incentives, including rate-of-return incentives and profit sharing.
Little or no consideration of changing risk profiles.	Consideration of changing risk profiles in ratemaking.
Regulatory Procedures	
Complex procedures for regulatory exemption.	Streamlined procedures for regulatory exemption.
Separate regulatory review and approval of asset purchases and ratemaking treatment.	Consolidated approval of asset purchases and ratemaking treatment.
Comprehensive and lengthy ratemaking procedures.	Nontraditional and simplified procedures, including alternative dispute resolution.
Ex post prudence reviews of utility investments.	*Ex ante* approval of utility investments.
Lack of coordination with other regulatory agencies.	Coordination with other regulatory agencies, including one-stop shopping.

TABLE 6-5 (continued)	
Commission Policies to Discourage Privatization	Commission Policies to Encourage Privatization
Regulatory Scope	
Extensive review of asset transfers and ownership changes.	Expedited review of asset transfers and ownership changes.
Regulatory oversight of affiliates and transactions.	No regulatory oversight of affiliates and affiliate transactions.
No authority to provide incentives for market-based utility management.	Regulatory authority to provide incentives for market-based utility management, including outsourcing through competitive bidding.
Different regulatory authority for different kinds of jurisdictional utilities.	Comparable regulatory authority for all jurisdictional utilities.
Comprehensive regulation in all cases.	Limited or more flexible regulation under some circumstances.

Source: Authors' construct.

In 1994, the New York Public Service Commission issued a policy statement on acquisition incentives for small water companies, which was intended to promote mergers and consolidation in the water supply industry.[14] These incentives may be particularly useful in prodding the acquisition of an otherwise undesirable system. State policies on acquisition adjustments are provided in appendix D (table D-2).

States that provide for "above-the-line" ratemaking treatment allocate the cost of the adjustment to ratepayers; "below-the-line" treatment means that shareholders pay for the adjustment. Some important policy issues are raised by acquisition adjustments. They are

[14] State of New York Public Service Commission, "Statement of Policy on Acquisition Incentive Mechanisms for Small Water Companies," Case 93-W-0962 issued August 8, 1994.

perceived as contrary to traditional ratemaking practices. Also, they may introduce unintended incentives. For example, the presumption that an adjustment will be approved by regulators could dampen the acquiring utility's drive to buy a system at the lowest possible price.[15] In fact, adjustments can cause an artificial inflation of the purchase price. Besides acquisition adjustments, the state commissions also can provide other incentives for beneficial acquisitions, such as a bonus on the rate of return.

Other costing and ratemaking methods can be designed either to encourage or discourage privatization. The traditional emphasis on historical costs in general ratemaking, for example, can be a deterrent, while forward-looking ratemaking is preferred by utilities. The use of a future test year in determining revenue requirements, for example, can reduce the shortfall between costs and revenues. Regulated utilities also tend to favor the use of more-or-less automatic cost-adjustment mechanisms or "pass throughs," although these methods can reduce the incentive for utilities to control certain costs. For some regional utilities, another preferred approach is single-tariff pricing (that is, a pricing structure that provides for cost averaging for combined systems rather than spatially determined rates). Averaging mitigates against rate shock for customers and revenue instability for utilities, and is relatively simple to administer. Single-tariff pricing can encourage economic industry consolidation and regionalization through privatization.

How regulators treat profitability is a central issue in privatization. Nontraditional alternatives to ratebase/rate-of-return regulation have been proposed to provide utilities with efficiency incentives by enhancing earnings potential. A possible option for publicly and privately owned utilities is to design privatization agreements that include profit-sharing provisions. Finally, the emergence of privatization and competition will affect industry risk profiles. Investor-owned utilities probably want regulators to take note of these trends in determining allowed rates of return.

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[15] This issue was raised in a 1995 case involving the purchase of Indiana Cities Water Company by the Indiana-American Water Company.

Regulatory Procedures

Various regulatory procedures can present a barrier to privatization, including the initial process to determine whether or not an arrangement constitutes the creation of a jurisdictional public utility. Commissions that must make this determination can adopt expedited procedures to grant or deny exemptions from regulation. An expedited exemption from regulation will greatly reduce uncertainty to the parties engaged in the privatization agreement.

Commissions also can facilitate privatization by combining certain regulatory determinations into a single proceeding. In particular, acquisitions by investor-owned utilities may involve one proceeding to approve the transfer of assets and a modification of the purchasing utility's certificate, but a later proceeding to determine the associated ratemaking treatment of costs. This can present a dilemma in the use of acquisition adjustments. If utilities assume that an adjustment is forthcoming, negotiating strategies may be affected. If the adjustment is disallowed or does not meet expectations, the entire transaction may be at risk. Commissions can reduce these uncertainties through consolidated proceedings.

Regulation is perceived as a barrier to privatization in part because the ratemaking process can be lengthy and cumbersome. Regulatory lag, or the time between the initiation of a proceeding and its resolution, can be costly to utilities as well as inconvenient. The process can be particularly difficult for small water and wastewater systems with limited resources. Regulation also can be very adversarial. Some nontraditional methods have emerged to address these issues. Many states use simplified procedures for smaller systems, including simplified filing and reporting requirements. Another modern tool of administrative law is alternative dispute resolution, by which parties can negotiate a resolution of their differences.

One procedure that can be particularly frustrating to utility managers is an after-the-fact review of management prudence, which can lead to disallowances of certain expenditures. This can occur for major construction projects, as well as other utility capital and operating activities. One method for reducing the need for *ex post* review is to institute an *ex ante* review of utility investment plans. Electric utilities, for example, have lobbied for preapproval so that the regulatory risks associated with capacity additions can be reduced.

Finally, another potential problem with the regulatory process is the lack of coordination among various state agencies responsible for quantity, quality, and economic regulation. Regulated utilities may be required to comply with multiple and overlapping requirements for certification, permits, planning, and other concerns. A coordinated system of state regulation could facilitate private involvement in the water and wastewater sectors by simplifying regulatory requirements and reducing regulatory risks. For multistate regional systems, particularly in the northeastern area of the nation, coordination among state regulators can be beneficial as well.

Regulatory Scope

The scope of regulation also can affect the level of interest in privatization. Most of the state commissions that regulate water and wastewater utilities have authority to approve transfers of utility assets or changes in ownership. Generally, commissions want assurances that such changes will not be contrary to ratepayer interests. Expedited regulatory processes can encourage the development of markets for utility assets.

A significant amount of privatization activity involves corporate affiliates of privately owned utilities. Corporate affiliations in the water supply, wastewater treatment, and stormwater management fields are becoming increasingly complex. Based on experience in electricity regulation, many of the state commissions have substantial authority to regulate holding companies and affiliate relationships, including: general power and authority regarding

The ABCs of Affiliation

Aquarion Company ("Aquarion") is a holding company whose subsidiaries are engaged both in the regulated utility business of public water supply and in various nonutility businesses. Aquarion's utility subsidiary, Bridgeport Hydraulic Company ("BHC"), and its subsidiary, Stamford Water Company ("SWC," together with BHC, the "Utilities") collect, treat and distribute water... Aquarion Company is involved in various nonutility activities. The Company conducts an environmental testing laboratory business through it Industrial and Environmental Analysts groups of subsidiaries (collectively, "IEA")... Aquarion Company [also] owns Timco, Inc. ("Timco"), a small forest products and electricity cogeneration company... (*Aquarion*, handout in 1994).

reorganization; specific authority over holding company formation; specific authority over setting up subsidiaries; financial input regarding reorganizations; access to books and records; and authority to review, investigate, or approve affiliate contracts and agreements.[16] Commission authority to review affiliate relationships is based on the importance of protecting captive ratepayers from risks associated with unregulated activities. This authority may present a deterrent to privatization ventures by investor-owned utilities. State-by-state descriptions of commission authority to review affiliates is provided in appendix D (table D-3).

Commissions have differing authority and inclination to provide incentives for specific utility management practices. Most commissions have some authority to review utility management prudence. In theory, regulators can use this authority to encourage utilities to seek out least-cost practices. Under some circumstances, outsourcing certain functions through competitive bidding might be desirable. At the same time, commissions may want to reconsider some policies that can provide disincentives for efficiency. For example, automatic cost adjustments (especially in a rising-cost environment) can shield utilities from risks that they otherwise would have to assume in a competitive marketplace. Regulated and unregulated firms without the ability to simply "pass through" costs probably are more disciplined about cost control.

The scope of commission authority can be adjusted over time to meet changing needs. First, the scope of commission authority can be adjusted to provide comparable oversight to all jurisdictional utilities. Specifically, it has been argued that publicly and privately owned water utilities should be similarly regulated, at least in the states that have jurisdiction over both types of utilities. Some believe that comparable regulatory treatment of utilities with different ownership forms would help create a level playing field for competition among utilities. Second, commissions might want to introduce certain limited or more flexible regulatory approaches, such as performance benchmarking. As competitive markets mature,

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[16] Beth Rosenthal, *State Regulation of Utility Diversification* (Washington, DC: Edison Electric Institute, 1994).

regulatory requirements could be relaxed. Alternatives to traditional ratebase/rate-of-return regulation might be considered as well.

Alternatives Regulatory Models for Privatization

As noted throughout this report, many versions of privatization emphasize the importance of local control. Most of the unregulated privatizers seem to envision a market defined by *public ownership* and competitive contracts for operations with no state regulatory involvement. Methods of oversight are specified in the terms of the contract between the private vendor and the local government. The logical conclusion of this model is the virtual demise of state economic regulation, as well as the investor-owned water and wastewater industries in their present form. This vision of the future, which negates the role of private ownership of utility facilities, seems contrary to many of the goals of privatization. Specifically, it undermines the goal of using private capital to independently build and operate major capital facilities. It also suggests that communities now served by investor-owned utilities would purchase these systems, which given the current fiscal circumstances of most cities seems highly unlikely.

A strikingly different model for implementing privatization is to transform *all* municipal water systems to private systems (so that all water systems would be subject to the same regulatory and taxation policies), and replace ratebase/rate-of-return regulation with price-cap regulation (or a similar approach) to foster efficiency and competition.[17] This model essentially suggests the divestiture of all publicly owned systems, much like privatization in Europe. As in total public ownership, total private ownership would create a level playing field for the industries. Total privatization also would create considerable opportunities for consolidation, but the resultant private monopolies would require some form of economic regulation. Given the politics of local control, total divestiture seems very unlikely. In sum, no extreme model of privatization (total public ownership with contracts or total divestiture) is likely to prevail.

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[17] Haarmeyer, *Privatizing Infrastructure*, 33.

Although some agreement can be found on the need for overseeing private utility monopolies, not everyone agrees that the current system of ratebase/rate-of-return regulation by the states is the best form of oversight. Just as long-held assumptions about vertically integrated utility monopolies have been challenged, so have the regulatory models that traditionally were deployed to protect consumers from the potential abuse of utility monopoly power. Several alternative regulatory models have emerged in the context of emerging competition within the telecommunications, natural gas, and electricity industries. Emerging regulatory models probably have applicability for the water and wastewater sectors as well. Some of the available approaches are summarized in table 6-6.

Price caps are used in the regulation of utilities in Great Britain (see chapter 7). Under the price-cap model, the focus of regulation is on setting maximum prices; utilities have strong incentives to keep costs down in order to enhance profits. Supporters of price-cap regulation contend that it would help the water supply industry take full advantage of market forces. Another regulatory approach involves the use of performance benchmarking, which is designed in part to replicate or augment competitive markets. Utilities operating within specified financial and operational benchmarks could be subjected to less stringent regulatory requirements. Benchmarks could be used in a system of incentive regulation to reward utilities for exceptional performance. In general, the consideration of incentive regulation is appropriate in the context of rapidly changing needs.

Structured Competition

Given current trends in consolidation, privatization, and competition, state governments may find it desirable if not necessary to design regulatory systems that are responsive and appropriate to restructured water and wastewater industries. The emergence of competition, in particular, presents a serious challenge. If regulation substitutes for competition, and imperfectly so, then the establishment for competitive markets for certain kinds of utility services suggests the possible demise of traditional regulation as it is known today. Of course, establishing and maintaining competitive markets is no simple task, particularly given utility franchises and persistent monopoly power at the distribution level.

A *structured competition* model may be appropriate for regulating water and wastewater industries. Structured competition could help the industries realize efficiencies through competition without putting ratepayers at undue risk. A structured competition model could consist of the following actions:

- Establish a reasonably level playing field by imposing comparable standards and requirements on all regulated water and wastewater utilities (and possibly all publicly and privately owned utilities).
- Encourage market-based utility management practices (such as competitive bidding) and remove disincentives for operational efficiency (such as automatic cost adjustments).
- Institute profit sharing or other mechanisms to distribute efficiency savings between privatizers and ratepayers.
- Provide state commissions with the authority to resolve disputes between private contractors and public entities.
- Streamline the regulatory process so that regulated firms can respond to changing market conditions and competitive opportunities.
- Consider registering or certifying major providers of public utility services to ensure that they meet minimal qualifications.
- Facilitate capacity-building at the local level for cities engaged in privatization activity.
- Simplify economic regulation and relax regulatory requirements when competition provides sufficient protection from monopoly abuse.
- Use benchmarking to monitor utility performance and trigger regulatory intervention as needed.
- Coordinate the privatization policies of different governmental agencies and design consistent requirements and standards.

TABLE 6-6
ALTERNATIVE METHODS OF REGULATORY OVERSIGHT

Alternative	Implications	Key Advantages	Key Disadvantages
Ratebase/rate-of-return regulation	Maintains the traditional process of economic oversight by which the state evaluates and approves the utility's ratebase, rate of return, and revenue requirements.	Familiar and fairly comprehensive; protects economic welfare of both utilities and consumers; provides relatively strong economic incentives.	Very costly to implement; highly formalistic and legalistic; does not necessarily ensure efficient utility behavior; can thwart competition.
Price caps or revenue caps	Replaces traditional ratemaking with price or revenue caps, as well as indexes by which rates can be automatically adjusted according to key economic indicators.	Streamlines the regulatory process in the long term; reduces regulatory costs; encourages efficient utility behavior; shifts risks to shareholders; can encourage conservation (revenue caps).	Establishing reasonable caps is difficult, especially given wide variations within the water industry; can lead to excessive profits; may not promote viability, planning, and other policy goals (price caps).
Performance-based incentive regulation	Replaces traditional regulation with a performance-based model. Utility performance along key indicators (such as compliance with planning or customer service standards) can be used as a trigger for initiating certain kinds of regulatory authority (such as audits).	Clearer and consistent utility performance incentives; reduces the cost of regulation to the state and utilities; highly consistent with long-term goals; encourages efficiency and better planning.	Startup and transition costs can be high; requires development of performance benchmarks; may not be effective unless other changes in the regulatory process are implemented.
Simplified procedures	Maintains some of the traditional methods of economic oversight but emphasizes simplified procedures (such as filings, proceedings, and reporting), especially for small systems.	Reduces agency and utility costs; responds to needs of small systems and their customers; streamlines decisionmaking.	Not suitable for larger water utilities; may be perceived as inequitable; may reduce effectiveness of oversight in certain areas of performance.
Alternative dispute resolution	Emphasizes resolving disputes outside of the formal regulatory process.	Can be used in conjunction with other methods; reduces costs to the state and utilities; facilitates consensus building; can help coordinate interagency oversight.	Lack of familiarity increases initial costs; participants may resist the process for strategic and other reasons; due process considerations can present a barrier to implementation.

Source: Janice A. Beecher, "Regulatory Alternatives for Water Utilities: A Comprehensive Framework," *NRRI Quarterly Bulletin* (March 1995).

Future regulatory models should not be encumbered by traditional views of economic regulation. Regulators may play fundamentally different roles in overseeing restructured and more competitive industries. A leading example is the idea of using the commissions as a "court of last resort" (prior to litigation) for resolving disputes between privatizers and cities. Early and competent dispute resolution should facilitate the development of competitive markets. A somewhat more invasive model would be to empower the commissions to approve contracts before they are implemented, which could provide ratepayers with additional protection and help avoid later disputes. The commissions could readily adapt their expertise and resources to these new functions.

Although surely controversial, the commissions also could play a role in registering or certifying privatizers to ensure that they have adequate financial, managerial, and technical capability to be entrusted with utility operational responsibilities. For example, registered or certified providers would meet minimal requirements in such areas as insurance coverage and the number of certified plant operators at their disposal. The commissions could provide rudimentary monitoring and oversight, such as a review of annual financial reports, and initiate inquiries only under certain circumstances (such as a dispute or a petition by ratepayers). Registration or certification also could be very beneficial to local officials when prequalifying bidders for major contracts.

Regulators will face numerous challenges in structuring competition. Perhaps the greatest challenge will be trying to create a more level playing field for competition. The mix of utilities with different ownership forms, the creation of corporate affiliates to provide various services, and the presence of many unregulated competitors makes this task especially difficult. As currently structured, the industry itself presents a significant barrier to economic efficiency. Regulators can continue to *react* to this structure or they can begin to design and implement regulatory models that will actively *change* it. Regulation should not stand in the way of economic industry restructuring that will allow the water and wastewater industries to take full advantage of economies of scale and scope. The concept of structured competition seems an appropriate regulatory model for introducing the competitive spirit to the water and wastewater industries without forcing ratepayers to incur unnecessary or unacceptable risks.

Observations

As noted above, economic regulation strives for many of the same goals as privatization; the two concepts are not as ideologically incompatible as they might appear. While regulation may be perceived as a barrier to regulation, not all regulators share that view. In fact, some members of the National Association of Regulatory Utility Commissioners (NARUC) have actively supported the idea of privatization because of its potential role in restructuring the U.S. water industry.[18]

One Regulator's Perspective

"[P]rivatization can lead to corporate structures of a size which can transcend local political boundaries, attract necessary capital and achieve operating efficiencies to an extent that exceeds the capabilities of most governmental authorities. From a regulatory perspective, therefore, if one believes in the goals of the new standards and the legitimacy of the heightened expectations which NARUC has certainly supported, then we should welcome privatization as not only beneficial but essential to achieving these goals" (Paul Foran, 1991).

Competitive markets are considered the best "regulator" of economic behavior. Competition for market share and profits drives firms toward efficiency. Customers, including municipalities, are protected by their freedom to choose. Yet pure competition for all aspects of public utility services probably is not an achievable goal given the realities of market failure associated with monopoly services.

In the foreseeable future, the water and wastewater industries will continue to combine elements of public and private ownership, monopoly and competition, and state and local regulation. A critical issue for policymakers is how to gauge when competition and/or local oversight are sufficient to reduce or remove economic regulatory requirements. The mere presence of a service contract is not sufficient evidence of a competitive market. Competition and the prospect of *deregulation* pose a chicken-and-egg problem: some will argue that

[18] Commissioner Paul Foran as quoted in "Internationalization and Privatization: New Challenges and Opportunities in a Changing Water Industry," *NARUC Bulletin* no. 48-1991 (December 2, 1991), 23.

competition cannot emerge as long as economic regulation is intact, while others will argue that regulation cannot be removed until competition is well established.

Importantly, the emerging competition in the water and wastewater industries is profoundly different from the manifestations of competition in the other major utility industries because of the aggressive presence of private vendors who have several competitive advantages over investor-owned utilities. Not the least of these advantages is the reality that these vendors are unregulated profit-seekers in a relatively monopolistic enterprise governed by a relatively immature competitive market. Investor-owned water and wastewater utilities will not compete effectively with unregulated private vendors unless substantial institutional changes are implemented, including changes in the regulatory regime. Thus, the commission role in regulating the water and wastewater sectors will evolve by necessity and affect the future of the investor-owned industries in fundamental ways. Without regulatory reform, privatizers will continue to seek exemptions from regulation or try to circumvent the regulatory process altogether. Given persistent monopoly power, the result may do ratepayers more harm than good and deny society the opportunities that structured competition can bring.

CHAPTER 7

GLOBAL ISSUES IN PRIVATIZATION

Privatization raises global issues, both in the literal sense of privatization as a movement in the global political-economy, and in the symbolic sense of emerging paradigms that reflect how water and wastewater services are viewed. Privatization and emerging competition will fundamentally alter the structure of the U.S. water and wastewater industries. Alternative approaches will be needed to guide public policies in this new reality. Paradigm shifts already are occurring for other regulated industries; the time probably has come to revise the paradigms for the water and wastewater industries too.

As seen in chapter 3, the global privatizers have an increasing presence in the United States. One of the unknowns in the privatization puzzle is how the globalization of privatization will affect the U.S. water and wastewater utilities, who are both *consumers* of the services provided by firms and *competitors* with those private firms to provide services to other utilities. Another major unknown is the role of regulation in affecting the complex and intricate relationships between regulated utilities and their international affiliates. State regulators in the United States ultimately may play a significant role in global privatization.

Global Privatization

Global privatization of state-owned enterprises has been driven by a number of forces. The political mosaic changed dramatically with the demise of major socialist governments and the end of the Cold War. Political leaders across the globe have had little choice but to seek out new remedies for ailing economies. Regardless of economic condition, the need for infrastructure investment is great. In short, political and economic circumstances, and the ideological leanings of world leaders, have combined to create a favorable environment for privatization.

Under various political regimes, state-owned enterprises (SOEs) were the prevailing delivery mechanism for goods and services, including public utility services. State-owned utility operations were immense public monopolies, with all the trappings of bureaucracy as well. The large nationalized utilities in other countries stand in stark contrast to the thousands of water and wastewater systems in the United States. Thus the concept of privatization domestically is quite different from the application of the term in most other parts of the world.

The Global Privatization Fund

The Fund

The Global Privatization Fund, Inc. (the "Fund") is a newly organized, non-diversified, closed-end management investment company designed for investors desiring to take advantage of investment opportunities, historically inaccessible to U.S. investors, that are created by privatizations of state enterprises in both established and developing economies, including those in Western Europe and Scandinavia, Australia, New Zealand, Latin America, Asia and Eastern and Central Europe and, to a lesser degree, Canada and the United States. Alliance Capital Management L.P., the Fund's investment adviser (the "Adviser"), believes that the trend toward privatization of state enterprises is a global phenomenon which it expects will continue into the next century...

Investment Objective and Policies

The Fund's investment objective is to seek long term capital appreciation. In seeking to achieve its investment objective, the Fund will invest at least 65% and, normally, significantly more, of its total assets in equity securities that, at the time of purchase by the Fund, are issued by enterprises undergoing privatization as described below. The balance of the fund's investment portfolio will include equity securities of companies that have undergone privatization or otherwise are believed by the Adviser to be beneficiaries of the privatization process (The Global Privatization Fund, *Prospectus Summary* dated March 4, 1994.)

Nevertheless, the reasons for privatization in various corners of the world sound familiar. In general, governments privatize state-owned utility enterprises because (1) the government needs money; (2) the utility system must expand, but the government lacks the funds to finance the job; (3) the government believes private management is inherently more efficient than government bureaucrats; (4) the government desires to build capitalism by

encouraging widespread ownership of shares; and (5) the government wants to restructure the industry to eliminate monopolies and encourage competition among suppliers.[1]

The chance to achieve efficiency in a capitalist economy is a key rationale for privatization, but other factors contribute to the global privatization movement as well.[2] First, economic development requires a sound infrastructure. The developing world needs infrastructure investments to further development; the developed world, including the United States, needs infrastructure investments to replace facilities that are obsolete or no longer in compliance with prevailing standards. Of course, the financial constraints on developing nations are more acute. Second, particularly in Europe, privatization can be linked somewhat to increased environmental awareness and the need to set and comply with environmental standards. Third, time is money; that is, most nations cannot afford costly delays in infrastructure improvements. Fourth, technology provides efficiency. Efficiency, in turn, lowers total investment requirements. Finally, "national and local governments wish to 'leverage' their human and financial capital" and use these resources more efficiently and effectively.[3]

International privatization apparently provides significant investment opportunities. Global financial markets and their investors generally seem to have welcomed these developments. The market for public-private partnerships is expanding, although the market for water-related infrastructure projects lags behind other sectors. As of 1993, the value of the world's 549 infrastructure projects proposed for private development was greatest in the area of transportation ($198 billion), followed by power ($72 million) and water ($16 billion).[4] The U.S. lags behind other regions of the world in terms of public-private

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[1] Leonard S. Hyman, "Privatization: The Hows and the Whys," *Public Utilities Fortnightly* (February 1, 1993): 18.

[2] Walter Lambert, David Sherman, Patrick Cairo, and Peter Talbot, "Privatization Opportunities in New Markets," a presentation at the Strategic Research Institute Conference on Public-Private Partnerships, New York, March 30, 1994.

[3] Ibid.

[4] Ibid.

partnership activity. By one estimate, investments in water projects were distributed as follows: East Asia/Pacific Rim ($6.8 billion), Latin America/Caribbean ($6.3 billion), North America ($1.3 billion), the Middle East ($1.1 billion), and Europe ($300 million). The United States accounts only for about $288 million of the partnerships found on the North American continent.

The Global Privatizers

The international character of the water and wastewater privatization activity is illustrated in table 7-1. As in the U.S. case, the global privatizers are not necessarily traditional public utility companies. The privatizers are an assortment of integrated water service companies; contract operations companies; planning, engineering, and technology firms; and investment firms and lenders. The privatizers often team up to bid on major infrastructure projects.

Several of the leading contract operations firms in the U.S. are now controlled by French or British corporations. These include Metcalf & Eddy Services (controlled by Compagnie Générale des Eaux), Wheelabrator (owned by Compagnie Générale des Eaux), Professional Services Group (controlled by Compagnie Générale des Eaux), and JMM Operational Services (controlled by Lyonnaise des Eaux). Through numerous subsidiaries, Générale, Lyonnaise and Great Britain's Severn Trent Water and Anglian Water PLC are very active in the United States.

The Indianapolis wastewater privatization project provides one of the leading examples of international affiliated interests. The competitively bid contract was won by a consortium know as the White River Environmental Partnership, which consists of several large national and international companies: LAH White River Corporation, JMM White River Corporation, Indianapolis Water Company (IWC) Services, IWC Resources Corporation, GWC Operational

TABLE 7-1
THE GLOBAL PRIVATIZERS
FOR WATER AND WASTEWATER SERVICES

Integrated Water Service Companies
Lyonnaise des Eaux-Dumez
Compagnie Générale des Eaux
North West Water
Thames Water
Severn Trent Water
Aquas de Barcelona
Anglian Water
Contract Operations Firms
JMM Operational Services, Inc.
Professional Services Group
Wheelabrator Clean Water
Operations Management International
Planners, Engineers, and Technology Firms
Montgomery Watson, Inc.
CH^2M Hill
Black & Veatch
Wheelabrator Technologies
U.S. Filter Corporation
Lend Lease Corporation
Investment Firms and Lenders
Banque National de Paris
P&O Australia
Sociedad Commercial del Plata S.A.
Citibank
J. P. Morgan
GE Capital/Kidder Peabody

Source: Walter Lambert, David Sherman, Patrick Cairo, and Peter Talbot, "Privatization Opportunities in New Markets," a presentation at the SRI Conference on Public-Private Partnerships, New York , March 30, 1994.

Services, JMM Operational Services, Lyonnaise American Holdings, Lyonnaise des Eaux-Rumey, GWC Corporation, and Montgomery Watson Americas (a United States-Great Britain engineering and construction partnership).[5]

The history of privatization in Europe has been especially fast and furious. Little doubt exists about the leadership role of the British and the French in the global privatization experience. Each also is noted for the regulatory models imposed on their country's privately owned water and wastewater systems.

The British Lead

Great Britain is prominent globally both for privatizing utility services and introducing price caps as a system of regulation. According to Leonard Hyman, "other countries followed the British lead, although without the same thoroughness or conviction."[6] The 1973 Water Act merged hundreds of British municipal water and sewer systems into ten regional water authorities responsible for both water and wastewater service and controlled by the central government.[7] The water authorities in Great Britain, in descending order of 1994 capitalization, are: Thames, Severn Trent, North West, Anglian, Yorkshire, Southern, Welsh, Wesex, South West, and Northumbrian.

The creation of the regional water authorities reportedly achieved a degree of "rationalisation" but the system suffered from a lack of accountability and an underenforcement of standards.[8] From 1974 to 1989, directly preceding privatization, the authorities suffered from economic pressures, operating inefficiency, capital expenditures

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[5] See "Tally Eaux: French Water Giants think Big, Long and Smart," *Public Works Financing* 75 (June 1995): 17-19.

[6] Leonard S. Hyman, "Privatization: The Hows and the Whys," *Public Utilities Fortnightly* (February 1, 1993): 18.

[7] "Internationalization and Privatization: New Challenges and Opportunities in a Changing Water Industry," *NARUC Bulletin* no. 48-1991 (December 2, 1991): 23-25.

[8] Glyn Eastman, "Privatization vs. Municipal Wastewater Services," a presentation at the SRI Conference on Public-Private Partnerships in New York, March 29-30, 1994.

constraints, and conflict with environmental standards and expectations. After privatization, measurable improvements could be seen in terms of the investment in underperforming systems and reduction in unsatisfactory performance.

Privatization in 1989 was brought about by political preferences, as well as pressure to comply with the environmental standards of the European Economic Community. Importantly, privatization also was viewed as a means of corporate diversification and participation in the global marketplace.[9] The perceived advantages of privatization were outlined in a 1986 white paper:[10]

- The authorities will be free of government intervention in day-to-day management and protected from fluctuating political pressures.
- The authorities will be released from the constraints on financing that public ownership imposes.
- Access to private capital markets will make it easier for the authorities to pursue effective investment strategies for cutting costs and improving standards of service.
- The financial markets will be able to compare the performance of individual water authorities against each other and against other sectors of the economy. This will provide the financial spur to improved performance.
- A system of economic regulation will be designed to ensure that the benefits of greater efficiency are systematically passed on to customers in the form of lower prices and better service than would otherwise have occurred.
- Measures will be introduced to provide a clearer strategic framework for the protection of the environment.

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[9] Sandra Meredith, "Water Privatization: The Dangers and the Benefits," *Long Range Planning* 25, no. 4 (August 1992): 72-81.

[10] "Privatization of the Water Authorities in England and Wales," White Paper Presented to Parliament, as reported in David Haarmeyer, "Privatizing Infrastructure: Options for Municipal Water-Supply Systems," *Policy Insight* 15 (October 1992): 20-21.

- Private authorities will be better able to compete in the provision of various commercial services, notably in consultancy abroad.
- Privatized authorities will be better able to attract high quality management from other parts of the private sector.
- There will be the opportunity for wide ownership of shares among employees and local customers.
- Most employees will be more closely involved with their business through their ownership of shares, and motivated to ensure its success.

The privatized regional authorities must raise their own funds and are subject to legal sanctions if they fail to comply with environmental and health standards. In these respects, privatization may have improved accountability. Privatization, according to a spokesperson, "has enabled the companies to begin an extensive capital investment program as well as opened the possibility of expanded commercial activities at home and abroad."[11] On the other hand, privatization also introduced the British authorities to certain forms of risk, namely regulatory risk and risks associated with environmental compliance.[12]

The French Connection

France historically encouraged the delegation of municipal services to private companies. Water quality issues are regulated through a department of health and a department of environment, but economic regulation is accomplished through competition and negotiation for contracts.[13] Three quarters of the French population is served by private water companies; approximately half of the nation's wastewater treatment capacity is operated by private companies as well.[14]

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[11] Ibid.

[12] Meredith, "Water Privatization," 72.

[13] Untitled presentation on Compagnie Générale des Eaux at the SRI Conference on Public-Private Partnerships in New York, March 29-30, 1994.

[14] Ibid.

Two French firms dominate the French market and have a substantial global presence as well. Company Générale des Eaux was established in 1853 and with 1993 sales of approximately $28 billion is the largest water utility in the world. Générale owns a controlling interest in one of the largest U.S. investor-owned water system (United Water Management and Service).

Générale et Lyonnaise

The largest and second largest water companies in the world are two French giants, Compagnie Générale des Eaux and Lyonnaise des Eaux, respectively. In addition, three of the leading contract operations firms in the United States are French controlled: Générale controls the Professional Services Group and Metcalf & Eddy and Lyonnaise controls JMM Operational Services (*Public Works Financing*, 1994).

Another one of the most vigorous global competitors is Lyonnaise des Eaux-Dumez, a multinational conglomerate specializing in environmental management and urban development and providing research, engineering, and management services.[15] Its hallmark is the "concession contract," through which it has provided operations and maintenance services to municipalities for more than 100 years.[16] The company negotiates long-term rates and assumes technical and operational risks within the fixed revenue stream. As of the early 1990s, Lyonnaise employed 110,000 people, including 12,000 in water-related fields, and served 26 million water customers and 14 million wastewater customers throughout the world.[17] It has participated in small, rural contract arrangements as well as major privatizations through acquisitions.

The French clearly regard water and wastewater services as a global industry and a growth industry. Some of the major global privatization activities of Générale and Lyonnaise are reported in table 7-2. According to industry sources, the French are not to be

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[15] Patrick R. Cairo, "Delegated Municipal Services for the Water System Industry in France," a paper presented at Waterscapes '91 in Saskatoon, Canada in June 2-8, 1991.

[16] "Internationalization and Privatization," *NARUC Bulletin.*

[17] Cairo, "Delegated Services." For comparison, the workforce of the National Association of Water Companies member utilities is about 15,000 (according to NAWC sources).

TABLE 7-2
PRIVATIZATION AND THE FRENCH CONNECTION

Location	Project	US $Millions
LYONNAISE DES EAUX		
Under Contract		
Argentina	Buenos Aires Water & Sewer Services	$4,000
Australia	Prospect Water Plant	133
China	Guangzhou Water Plant	173
Canada	Northemberland Strait Crossing	840
France	Lyon Northern Ring Road	300
U.K.-France	Channel Tunnel	15,000
Germany	Rostok Water	240
Greece	Rion-Anitrion Bridge	480
Hungary	Danube Bridge at Szeksard	95
Malaysia	Johor Water Project	200
Mexico	Mexico City Water Operations	na
Portugal	Lisbon Rail Link	820
United Kingdom	Severn Estuary Bridge	915
United States	Indianapolis Wastewater Operations	na
Under Negotiation		
Czech Republic	Rozvadov-Pizen Motorway	440
France	Lyon Wester Ring Road	1,000
France	MUSE Rail Project	5,400
Greece	Athens Beltway	1,200
Greece	Prevesa-Aktion Tunnel	48
Malaysia	Sabah Water Project	118
United Kingdom	Birminghan Western Orbital Route	750
Venezuela	Tablazo Water Treatment Scheme	na
COMPAGNIE GÉNÉRALE DES EAUX		
Under Contract		
Mexico	Mexico City Water Operations	na
France	Marseilles Road Tunnel	221
United Kingdom-France	Channel	15,000
Hungary	Szeged Waterworks	60
Mexico	Aguascalientes Water System	na
Poland	Ldz Sewage Treatment Plant	na
Portugal	Tagus River Bridge	600
Portugal	Porto Waste to Energy Plant	na
United States	Sithe Power	883
Under Negotiation		
Australia	Avon Dam and Woronora Water Plant	33
France	MUSE Rail Project	5,400
France	Paris Beltway	260
Germany	Elbe Tunnel	1,400

Source: *Public Works Financing* 75 (June 1994): 19.

underestimated in terms of their ability to successfully compete and deliver. They already have made an indelible mark on the U.S. water and wastewater industries. According to a Lyonnaise spokesperson, the public and private sectors of the U.S. water and wastewater markets are attractive for further involvement.[18] Regulation is viewed as a primary obstacle to international involvement in the U.S. because of the short-term focus of regulation, the lack of incentives to improve productivity, and the considerable effort required for rate negotiation. In the municipal market, city preferences for short-term contracts present another barrier. Perceptions are that these conditions are changing and that U.S. water customers will benefit from increased international competition through better quality and lower prices.

Not everything in the French water business is wine and roses. Scandalous reports in 1994 had Lyonnaise supposedly "mopping up" the financial difficulties of Grenoble's mayor, setting him up in a luxurious Paris apartment, and then receiving the operating contract for the city's water network.[19] The charges of corruption were denied. The larger lesson, of course, is that water politics and city politics can be an explosive combination. Safeguards against any and all forms of corruption are essential.

The performance of JMM and Lyonnaise des Eaux in Indianapolis is being watched particularly closely from all sides. Some observers believe the French may be "in over their heads" in Indianapolis because of the system's large size, a possible shortage of qualified operators, and a contract that may have been "overly fair" to the city.[20] No doubt, Indianapolis will continue to be one of the most prominent privatization experiments.

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[18] "Internationalization and Privatization," *NARUC Bulletin.*

[19] *Champs-Elysees* (December 1994). Translated from the original French.

[20] *Public Works Financing* 75 (June 1994): 18.

International Activities of U.S. Utilities

The U.S. investor-owned water industry is beginning to make its global presence known, although somewhat more cautiously than their European competitors. Certainly, American technical and managerial expertise are highly exportable. Several of the larger regulated investor-owned utility systems are actively engaged in privatization efforts, sometimes in conjunction their European affiliates.

The American Water Works Company has provided management services for World Bank investments in Central and South America, and is exploring opportunities in other parts of the world.[21] American's commitment to privatization is further demonstrated by its joint venture with Anglian Water PLC, a British water and wastewater utility, to form the American Anglian Environmental Technologies. The venture will concentrate on privatizing municipal wastewater services through the ownership, operations, and public-private partnerships with municipalities.[22] In 1993, General Waterworks Corporation (GWC) formed a partnership with JMM Operational Systems to explore contract opportunities for water and wastewater operations. General's major shareholder was the French privatizer, Lyonnaise des Eaux-Dumez.[23] Philadelphia Suburban's very active contract operations affiliate, PSC Environmental Services, was acquired by Severn Trent, Inc. (the U.S. subsidiary of the British water utility).

The structure of the U.S. water industry has been a constraint on the ability of American utilities to participate in the worldwide marketplace. Even many of the largest U.S. systems are smaller than the French and British giants. For large and small systems alike, the U.S. model traditionally emphasized vertically-integrated and centrally-controlled utility monopolies. The utility corporate culture in the U.S. has reinforced the concept of long-term enfranchisement for utility monopolies. The water and wastewater industries have the

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[21] "Internationalization and Privatization," *NARUC Bulletin.*

[22] "Business News," *American Water Works Association Journal* (October 1993).

[23] "Business News," *American Water Works Association Journal* (December 1993). In 1994, General was merged into United Water Resources.

appearance of being relatively conservative industries, even among other public utilities. As U.S. water utilities make forays into global markets, these traditional corporate dispositions are beginning to change.

Perhaps even more than corporate culture, the involvement of U.S. utilities in global markets probably has been stifled by economic regulation. Regulation presents a barrier to U.S. involvement overseas because a fundamental goal of economic oversight is to protect captive customers from financial and other risks associated with affiliate interests. In other words, the ratepayers in Santa Fe, New Mexico should not have to bear the risks associated with providing water or wastewater services in Santa Fe, Argentina. Regulation generally does not adapt well to economic activities that cross state boundaries, let alone to activities that transcend international borders. As U.S. utilities expand their affiliated interests and activities, new regulatory models will be needed to sort out utility from nonutility activities and competitive from noncompetitive services.

Global Regulatory Alternatives

Along with the privatization of state-owned enterprises, as long as monopoly power persists, the need for some form of economic regulation persists as well. Indeed, the potential for monopoly abuse seems great upon the removal of utility systems from the government's direct control. Even with emerging competition, the need for regulation is expected to continue. According to Britain's Alan Booker, water supply is a "de facto monopoly" that will "require permanent regulation over at least the operation of the network even if direct competition for supply, treatment and customer care can be introduced."[24]

In their treatise on privatization, Oxford professors John Vickers and George Yarrow observe that any form of ownership is imperfect and that "privatization can be viewed as a means of reducing the impact of government failure, albeit at the risk of increasing market

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[24] Alan Booker, "Private Management of Water Utilities: Economic Regulation of the UK Water Service Companies," a paper presented at the Annual Meeting of the American Water Works Association in San Antonio, Texas (June 6-10, 1993).

failure, and of changing monitoring arrangements."[25] However, the authors also assert that (1) government intervention after privatization provides continued opportunities for government influence, (2) commitments by the government to not intervene may not be credible (particularly for monopolies), and (3) privatization itself is a governmental activity with potentially substantial distributional and political consequences. Vickers and Yarrow conclude that, "The effects of privatization in any particular context will, therefore, be highly dependent upon the wider market, regulatory and institutional environments in which it is implemented."[26]

Establishing Regulatory Regimes

Given persistent monopoly power, privatization of state-owned enterprise is intrinsically related to the design of a regulatory regime for economic oversight. As seen in table 7-3, conditions are favorable for privatization when the market is "friendly" and the capacity of the government to regulate is high. Importantly, when enterprise conditions are noncompetitive, privatization cannot be implemented until a system of economic regulation is well established.

A critical issue in the design of alternative regulatory regimes is the distribution of power and authority in a political system. Ideally, the regulatory model should be able to withstand short-term fluctuations in political power, including changes in controlling political parties. Certainly, global financiers (such as the World Bank) care considerably about the stability of regulation because it directly affects the ability of a nation and its people to support costs and repay debts.

The legitimacy and staying power of the U.S. system can be attributed to its sound constitutional basis and its consistent legitimation by the executive, legislative, and judicial institutions involved in implementing regulation. Indeed, U.S. regulation itself often is

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[25] John Vickers and George Yarrow, "Economic Perspectives on Privatization," *Journal of Economic Perspectives* 5 (Spring 1991): 130.

[26] Ibid., 130.

TABLE 7-3
CONDITIONS FAVORING PRIVATIZATION

Political-economic Conditions	Enterprise Conditions	
	Competitive	Noncompetitive
High capacity to regulate with a friendly market	Privatize.	Ensure or install appropriate regulatory environment; then consider privatizing.
Low capacity to regulate with an unfriendly market	Privatize, with attention to competitive conditions.	Consider privatization of management arrangements; install market friendly policy framework; install appropriate regulatory environment; then consider privatizing.

Source: Adapted from Sunita Kikeri, John Nellis, and Mary Shirley. *Privatization: The Lessons of Experience* (Washington, DC: The World Bank, 1992).

described as quasiadministrative, quasilegislative, and quasijudicial. When designing a regulatory system for a given political system, the comparative strength of political institutions is especially relevant. In systems with strong judiciaries, for example, the regulatory system should be well grounded in the legal system. This will prove especially essential if the executive or legislative branches are politically volatile.

Emerging Regulatory Models

The fundamental purposes of regulation for newly privatized utility systems are to protect consumers, attract capital, encourage competition, and advance the goals of public policy.[27] Yet, a recurring theme around the globe is the rejection of ratebase/rate-of-return regulation as the preferred method of economic oversight. To a degree, U.S. regulation is admired by global interests, particularly for its established principles, precedents, and staying power. But the U.S. model also is perceived as administratively cumbersome and expensive to implement. Some of the emerging models of regulation are summarized in table 7-4.

The British model of economic regulation is frequently discussed, analyzed, and debated for possible implementation in the U.S. It involves setting annual price caps for each company based on the retail price index plus an additional "K" factor. These factors, which can be reset every five years, take into account the investments needed to meet European and British quality standards as well as anticipated annual efficiency savings.[28] This "medium term" approach is designed to reduce uncertainty and regulatory risk for both consumers and investors. However, the regulator can use company cost data to introduce a surrogate form of competition, also known as benchmarking. The British also have explored the potential use of "common carriage" (or "wheeling") for water, following again the experience of the natural gas, electricity, and telecommunications industries.[29]

The British regulatory system is implemented by the Office of Water Services (OFWAT), a single-administrator agency (as compared to a multimember regulatory commission). The energy and telecommunications industries also are separately regulated. Having a single administrator has certain advantages in terms of administrative efficiency, but disadvantages as well. Much of British price-cap model seems dependent on the personal style of the incumbent regulators. A change of regulators will have interesting consequences. OFWAT has responsibility for economic regulation, consumer complaints, standards of

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[27] Hyman, "Privatization," 22.

[28] Booker, "Private Management."

[29] Ibid.

TABLE 7-4
COMPARISON OF GLOBAL REGULATORY ALTERNATIVES

Country	Nature of Regulation	Selected Features
United States	State public utility commissions	Ratebase/rate-of-return regulation
Great Britain	Centralized incentive regulation	Price caps, single administrator (Office of Water, OFWAT)
France	Municipal contract regulation	Indexing, negotiations, reviews
Chile	Regulation by national tariff boards	Performance measures, yardstick competition
Argentina	Price-cap regulation by a regulatory agency	Operational contract, 5-year price caps, 30-year planning horizon

Source: Authors' construct based on a World Bank workshop held in April 1994.

service, and mergers. Another group of agencies has responsibility for water quality regulation. Coordination of environmental and economic oversight is considered a high priority for the British regulatory system.The mechanics of price-cap regulation, at least initially, are not dramatically different from ratebase regulation because a detailed analysis of costs is required before price caps can be specified. Some familiar and difficult policy issues, such as affordability, have emerged. Also, the process is not entirely free from administrative complexity or political controversy. A *Wall Street Journal* headline in early 1995 did not bode well for price cap regulation: "Utility Privatizations Backfire in the U.K.: High Profits, Salaries May Bring Regulatory Changes."[30] According to the article, the British model of

[30] Kyle Pope, *Wall Street Journal* (March 30, 1995), 22.

price cap regulation was beginning "to show its flaws." The backlash against privatization was brought about by high profits, shareholder perks, and management bonuses. The price cap system, designed to provide incentives for utilities to perform efficiently, also allowed more profitability than expected. Analysts may have underestimated the inherent inefficiency of Britain's utilities before privatization. A more cynical explanation is that the utilities did not fully divulge their financial positions at the time the price caps were set. Even the system's chief architect and electricity regulator, Stephen Littlechild, conceded that the potential for profits may have been misjudged.[31] Customer refunds and price cuts are planned, but considerable uncertainty about the British regulatory system remains.

Challenges for New Regulatory Regimes

A modern regulatory regime cannot strive for economic efficiency in a vacuum. The challenge of designing a regulatory system is the challenge of integrating competing public policy goals. Specifically, a regulatory system should attempt to simultaneously address the performance of utilities as it relates to a society's *efficiency, environmental,* and *equity* goals. Meeting all three goals requires conscious and conscientious tradeoffs. At times, it may become necessary to sacrifice certain subgoals in order to achieve a higher purpose.

The underlying goal of privatization is the goal of economic efficiency. But economic activity usually results in environmental externalities. Developing countries are particularly vulnerable to the temptation to sacrifice environmental quality to achieve economic growth. However, in both developing and developed economies, considerable concern has been expressed about the implications of privatization for environmental protection. In an increasingly competitive market, where cost cutting is essential for survival, the concern is that environmental stewardship will give way to profit maximization. A longer term view recognizes that environmental quality enhances economic value. Basic environmental standards and penalties for flagrant violations are essential. However, some environmental goals can be achieved through market-based mechanisms, such as trading systems for pollution (or emission) credits. Regulatory systems that provide appropriate incentives can

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[31] Ibid.

help meet environmental standards at lower costs than traditional command-and-control regulations.

According to one observer of the electricity industry, privatization requires a new "environmental accountability," meaning socially responsible utility management systems as well as a regulatory regime "significantly robust to maintain a long-term concern for environmental values over and above relatively short-term demands from narrow but powerful groups and organizations."[32] Certainly, the prevailing environmental dimensions of the water and wastewater areas suggest that accountability under privatization will be a major concern. Transfers of water and water pollutants, for example, will present regulators with increasingly complex decisions. In the global context, regulatory regimes ultimately must address environmental accountability across geopolitical borders as well. Privatization does not have to be in conflict with environmental and planning goals. Privatization combined with the proper degree of regulatory oversight and positive performance incentives can help accomplish environmental goals more effectively and at a lower cost.

Equity is a more difficult challenge for planners and politicians alike. Some efficiency solutions address a narrow form of equity by assigning costs to the cost causers. However, most markets consist of winners and losers. The equity issue that looms large for many parts of the world is the issue of affordability. Economically efficient solutions may put many services outside the reach of large populations. Providing service at different levels of quality, based on customers' ability to pay, raises serious environmental justice concerns. Using rate structures to provide services below cost for some customers introduces inefficiency and can be very difficult to administer. Another approach is to find other means of subsidization, through governmental or private sources. Like environmental quality, however, maintaining standards for the quality of life has positive economic implications for cities and for nations.

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[32] Timothy O'Riordan, "Electricity Privatization and Environmental Accountability," *Energy Policy* (April 1989): 141.

Future Directions

Privatization of state-owned enterprises, including public utilities, is likely to continue to be a significant trend in the global political economy. Water and wastewater services are at once becoming more internationalized and more competitive. The structure of these industries will change in dramatic ways, both at home and abroad. Harnessing the power of competition to achieve economic goals, without sacrificing equity and environmental goals, is a formidable public policy challenge. The ultimate role of U.S. public utility regulation amidst these intriguing global developments remains to be seen.

APPENDIX A

CASE STUDIES OF WATER AND WASTEWATER PRIVATIZATION

WATER CASE STUDIES

1. Scottsdale, Arizona[1]

Overview

A new drinking water treatment plant was designed, built, and owned by a partnership known as Scottsdale Water Service Company (SWSC) under a twenty-year contract signed with the city of Scottsdale in 1984. The plant was completed in early 1987 at a cost of $23.0 million and serves 50,000 people. SWSC contracted with Wheelabrator EOS to operate the facility.

Rationale

Scottsdale had been using groundwater as its source of supply, but under a state directive the city was required to begin using surface water from the Colorado River. At the time of the agreement, privatization was an attractive option because of the available tax advantages to the city and to potential private owners. In addition, SWSC could complete the plant in a shorter time period than was possible under city ownership.

Outcome

Water rates in Scottsdale increased because the new plant was designed to use surface water and because SWSC required a profit to own and operate the plant. Municipal utilities are not regulated in Arizona, so the transaction did not require commission approval. In 1993, the city created the Scott's Water Company, a nonprofit corporation that became an ownership partner with Ford Motor Credit Corporation. The city owns 51 percent of the plant through Scott's Water Company and controls the plant's operation. SWSC remains the parent entity. The operation and maintenance contract with Wheelabrator EOS was not renewed in 1994 because city officials determined that they could operate the plant at a lower cost.

2. Sabine Parish, Louisiana[2]

Overview

The Sabine Parish water system in Louisiana is owned by the Ebarb Water Works District (EWWD), which contracted in 1989 with Utility Data Services Corporation (UDS) to expand, operate, and maintain the system. The owner of UDS also is the general manager of EWWD. Financing for the project was provided through the Farmers Home Administration

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[1] Ernst & Young, *Seattle Water Department: Tolt Filtration Plant Privatization Study,* a Study Prepared for the City of Seattle (1993), II-14, and subsequent interviews.

[2] U.S. Environmental Protection Agency, *Public-Private Partnership Case Studies* (Washington, DC: U.S. Environmental Protection Agency, 1990), 91, and subsequent interviews.

and up-front cash from UDS. The cost was $2.0 million in 1989 for the original expansion project and $1.6 million through 1994 for subsequent expansion projects. Payments to UDS are based on fees for various activities and user fees of $2.75 per customer per month. Payroll expenses are paid by EWWD. The plant serves 5,000 people.

Rationale

Sabine Parish water system, under the Ebarb Water Works District (EWWD), was in default on its bonds, had no funds to make improvements needed for compliance with federal drinking water standards, and was essentially bankrupt. EWWD is regulated by the Farmers Home Administration which also loaned it funds and set its water rates.

Outcome

Operating costs were reduced from 80 to 30 cents per 1,000 gallons of treated water. User fees rose immediately from a $10.00 per month fixed fee plus $1.00 per 1,000 gallons to a $12.50 fixed fee and $3.00 per 1,000 gallons. Rates were increased in 1994 by Farmers Home Administration to $14.50 for the first 1,000 gallons per month and $3.50 per 1,000 gallons above that level. UDS upgraded and expanded the customer base through advertising and a public relations program. Eventually the system became solvent and all EPA standards were met. Apparently, Sabine Parish water customers have been satisfied with the UDS operations. The success of the project, as with many others, was due in part to the effort to inform and involve members of the public at every phase. Because EWWD retained ownership, and state jurisdiction does not apply, the state public utility commission was not involved. Future water rates are expected to be stable, and the customers, although unhappy with the high rates, continue to sign up for service. No other option for Sabine Parish was readily available, and the Farmers Home Administration encouraged the arrangement.

3. Aberdeen, New Jersey[3]

Overview

The New Jersey-American Water Company, a regulated investor-owned utility, acquired the water system of Aberdeen Township, New Jersey in 1991 for $4.7 million. The Aberdeen system serves 10,000 people.

Rationale

The primary reason for the acquisition was to allow New Jersey-American to establish a regional water supply management system. Aberdeen had been required to purchase water from the New Jersey Water Supply Authority (NJWSA). The water from NJWSA was treated and delivered to Aberdeen by New Jersey-American. Purchasing Aberdeen allowed New Jersey-American to integrate the Aberdeen system into its existing operations in the county.

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[3] Correspondence dated January 26, 1995 from D. L. Kelleher, New Jersey-American Water Company, and subsequent interviews.

It also allowed New Jersey-American to defer construction of a storage tank and gave the company access to groundwater pumping rights owned by Aberdeen. It also relieved Aberdeen of the costly arrangement required by NJWSA.

Outcome

Water rates in Aberdeen were reduced by 50 percent after the acquisition. The New Jersey Board of Public Utilities approved all aspects of the acquisition. It is noteworthy that New Jersey-American prevailed over many competing bidders for this and many of the other systems it has acquired.

4. Mendham, New Jersey[4]

Overview

The New Jersey-American Water Company, a regulated investor-owned utility, acquired the water system owned by Mendham Borough and Mendham Township in October 1992 for $2.8 million. The system in Mendham serves 5,000 people. The system was publicly bid and New Jersey-American was the only bidder.

Rationale

Mendham was required to make increasingly expensive improvements to its water and wastewater systems in order to comply with newly enacted state and federal environmental laws and regulations. Borough officials decided to sell the system because they feared that future investments would be required and that the system's small customer base could not support the additional costs. The Borough's water system was integrated into New Jersey-American's Commonwealth System, which allowed New Jersey-American to avoid $500,000 in new storage tank construction costs.

Outcome

Before the acquisition, water rates in Mendham were raised 15 percent to match those of New Jersey-American, but future rate increases are expected to be small. New Jersey-American is a regulated investor-owned system and the New Jersey commission approved all aspects of the acquisition.

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[4] Ibid.

5. Union Beach, New Jersey[5]

Overview

The New Jersey-American Water Company, a regulated investor-owned utility, acquired the water distribution facilities owned by the Borough of Union Beach, New Jersey in February 1992 for $2.9 million. The Union Beach system serves 6,000 people. The system was competitively bid for sale and New Jersey-American was the successful bidder.

Rationale

The cost of water service in Union Beach was very high due to regional water supply practices in the state. Overpumping groundwater resources had caused salt water intrusion, forcing the Borough to abandon some of its wells. Fearing further intrusion, state environmental regulators mandated reduced pumping. Replacement water was purchased by the Borough from the New Jersey Water Supply Authority; the water was treated and delivered by New Jersey-American. Following the acquisition, the Union Beach system was integrated into the largest New Jersey-American regional water system.

Outcome

Water rates for Union Beach customers were reduced by 45 percent after the acquisition. The New Jersey commission approved all aspects of the transaction.

6. Loganville, Pennsylvania[6]

Overview

In 1978, the Borough of Loganville, Pennsylvania sold its water system to The York Water Company, a large regulated investor-owned water company in the state. York bought the system for $45,000 and subsequently invested $125,000 in system improvements. After an inventory evaluation, the book value of the system was estimated at $100,000.

Rationale

Loganville did not have a full time staff or the expertise to upgrade and improve its water system to meet drinking water quality standards. The York Water Company purchased the Loganville system, as well as two other nearby systems in the 1980s. The purchase price and regulatory treatment of the sale made the arrangement very attractive to York.

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[5] Ibid.

[6] U.S. Environmental Protection Agency, *Public-Private Partnership Case Studies,* 103, and subsequent interviews.

Outcome

York was allowed to impose regular customer rates immediately, which more than doubled Loganville rates from $43 to $103 annually. A rate filing in 1980 allowed York to include capital improvements it made in the Loganville system. The Pennsylvania commission approved rates based on the original cost of the system, less accumulated depreciation. Data on operating costs after the acquisition are not readily available, but economies of scale and scope were expected. Future rate increases were anticipated to be lower than the rate increases that would have been required if the Borough had continued to operate the system on its own. Acquisitions by York and other companies have been encouraged by Pennsylvania utility regulators, who are concerned about the viability of the states' many small water systems.

7. Malvern, Pennsylvania[7]

Overview

In December 1993, Philadelphia Suburban Water Company (PSWC) purchased the water system belonging to the Borough of Malvern, Pennsylvania for $1.3 million. Nearly 3,000 people are served by the Malvern system. PSWC is a commission-regulated utility.

Rationale

Malvern needed to upgrade its water system to meet federal drinking water standards at a cost that would double water rates. In addition, water pressure in the system was too low for adequate fire protection. Philadelphia Suburban offered substantial economies of scale and attractive financing. Malvern customers approved the sale because they anticipated lower water service rates, reduced fire insurance rates (due to improved water system pressure), and compliance with all applicable drinking water standards.

Outcome

Before the purchase by PSWC, water rates in Malvern were 9 percent lower than PSWC rates. PSWC agreed to adjust the rates "over four rate periods" to equal their systemwide rates.[8] They would have been higher if Malvern had not sold its water system. Moreover, Malvern was able to use the cash flow from the sale to reduce its debt and lower taxes. The Pennsylvania commission approved every phase of the acquisition and continues to have jurisdiction over PSWC and all of its acquired systems.

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[7] International City/County Management Association, "Drinking Water: Financing and Management," *MIS Report* 26, no. 6 (June 1994): 14, and subsequent interviews.

[8] Interview with Patrick McGuigan, Plant Manager for Malvern, Pennsylvania, on March 21, 1995.

8. Schuykill, Pennsylvania[9]

Overview

A joint application was filed in November 1994 with the Pennsylvania Public Utility Commission by Philadelphia Suburban Water Company (PSWC) and the Borough of Phoenixville, Pennsylvania to allow PSWC to acquire a portion of the Phoenixville Water System currently serving Schuykill Township, and cancel the certificate of public convenience held by the Schuykill Township Water System. The Schuykill system serves 1,625 people. PSWC successfully bid for the system at a purchase price of $1.0 million ($750,000 in cash and $250,000 in laboratory and other technical services). In its filing, PSWC indicated that the value of the utility plant in service was $400,000 (offset by the sale price, accumulated depreciation of $60,000, and an acquisition adjustment of $660,000). The company also planned to spend another $1.0 million to extend service to former Phoenixville customers.

Rationale

The Pennsylvania commission ordered Phoenixville to make $2.5 million in improvements to the aging Schuykill system to remedy ongoing water quality problems (such as clarity and taste). The commission considered imposing fines for violations of service quality standards. Phoenixville officials determined the additional costs would create financial stress and cause water rates to rise substantially. The acquisition by PSWC made it possible to improve water service quality without straining local finances. Many Schuykill customers expressed a preference for getting their water service from PSWC.

Outcome

Water rates were expected to rise less under PSWC management than under Phoenixville management. PSWC rates are higher than those of Phoenixville and lower than the rates of competitors. The favorable comparison of rates made the offer from PSWC particularly attractive to Schuykill customers. As of early 1995, the application was under review by the Pennsylvania commission. Although the Phoenixville Borough Council passed an ordinance allowing the sale, a dissenting council member collected enough signatures to place the issue on a referendum ballot in November 1995.

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[9] "Philadelphia Suburban Buys Neighboring Water System," *Waterweek* (November 7, 1994); *Joint Application of Philadelphia Suburban Water Company and the Borough of Phoenixville,* filed with the Pennsylvania Public Utility Commission on November 8, 1994; and subsequent interviews.

9. Uwchlan, Pennsylvania[10]

Overview

Uwchlan Township, Pennsylvania sold its water system to Philadelphia Suburban Water Company (PSWC) for $10.6 million in 1992. The system serves approximately 17,500 people. PSWC is a regulated investor-owned utility.

Rationale

Uwchlan had a groundwater supply that would require extensive filtration to meet federal drinking water standards. The cost of these improvements to the system's small number of customers would have been prohibitive. By selling the system and obtaining water through PSWC, the cost of upgrading the existing system was avoided.

Outcome

PSWC promised officials in Uwchlan that water rates would be kept constant through 1993. Subsequent rate increases were planned so that Uwchlan rates would eventually equal PSWC's normal rates. Rate increases were expected primarily because rates had been kept artificially low through a subsidy from the township. The Pennsylvania commission approved all aspects of the sale and will have jurisdiction over PSWC service in Uwchlan.

10. Westmoreland County, Pennsylvania[11]

Overview

At the time of its establishment in 1943, the Westmoreland County Municipal Authority (WCMA) in Pennsylvania contracted with American Commonwealth Management Services Company (ACMS) to operate and maintain the county drinking water system. Seventeen systems have been acquired by the authority, which serves a population of 400,000 people. The service contract was renewed until 1992, when the WCMA took over the operation. ACMS received a variable fee for its services based on user charges.

Rationale

Westmoreland officials wanted to expand through regionalization, acquire troubled water systems, and extend services throughout the county, but it could not do so with existing staff and expertise. The operating expertise and financial performance of ACMS allowed Westmoreland to issue revenue bonds at low rates for the needed improvements. Operating efficiencies and system expansion were expected to help keep rates low. The contractual

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[10] International City/County Management Association, "Drinking Water: Financing and Management," 15, and subsequent interviews.

[11] U.S. Environmental Protection Agency, *Public-Private Partnership Case Studies,* 111, and subsequent interviews.

arrangement made it possible for Westmoreland to achieve its regionalization goals. By 1992 the WCMA officials determined that they could keep expenses down and operate the system as efficiently as ACMS, so the authority took over the system's operations.

Outcome

The impact of the arrangement on water rates has not been analyzed, although regionalization was expected to produce scale economies. Operating costs increased over time for a variety of reasons. Ownership was maintained by WCMA, so the system is not regulated as an investor-owned utility in Pennsylvania.

11. West Whiteland, Pennsylvania[12]

Overview

West Whiteland Township, Pennsylvania sold its water system to Philadelphia Suburban Water Company (PSWC) for $2.6 million in 1992. The system serves 2,500 people. PSWC is a regulated investor-owned utility.

Rationale

Similar to Uwchlan, West Whiteland used groundwater sources that would require extensive filtration to meet federal drinking water standards. West Whiteland's small customer base made it difficult for the community to afford the investments. West Whiteland needed additional improvements to increase the system's pressure for meeting fire protection needs. The sale also meant that West Whiteland would not need to rely on its limestone aquifer, which could create sinkholes if drawn down too low. A nearby Superfund site also presented a contamination threat to the aquifer. Selling the system to PSWC mitigated all of these risks.

Outcome

As in the Uwchlan case, rates for West Whiteland were lower than PSWC rates. Increases over a ten-year period were planned to bring rates in line with those of PSWC's regular customers. All aspects of the privatization were approved by the Pennsylvania commission, and PSWC service in West Whiteland remains under commission jurisdiction.

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[12] International City/County Management Association, "Drinking Water: Financing and Management," 15, and subsequent interviews.

12. Seattle, Washington[13]

Overview

The Tolt water treatment plant is a proposed $82 million filtration facility for the city of Seattle, Washington. A consultant's study on the potential privatization of the facility was issued in August 1993. Municipal operations in Seattle are not commission-regulated.

Rationale

Officials in Seattle want to achieve cost containment and improved management, and are concerned that the city's traditional procurement processes may be inefficient. Ernst & Young, the consultant to the city, reviewed three alternatives:

- Private contracting of operations and maintenance
- A turnkey arrangement (design, build, and operate)
- Full privatization including design, construction and operations, with private financing and ownership.

None of the three alternatives was strongly recommended. The report suggests that privatization offers many benefits but also many negative impacts, that experiences with full privatization generally were problematic, and that Seattle should not follow that route. The report suggests that some efficiencies could be obtained through public ownership with private operations. A major concern about full-scale privatization is the "potential opposition of the State Department of Health to a private ownership of a major drinking water treatment facility."[14] The report also asserts that privatizing the Tolt facility would not yield financial benefits to the city, that the profit to a private provider would offset many of the projected cost savings, that Seattle was neither under pressure to build the plant nor short of funds, that the Water Department would lose control of the facility, and that the Department is not lacking in professional expertise. Another conclusion was that privatization seems contrary to the local political philosophy, and that the community has a long-standing distrust when it comes to the private ownership of traditional public facilities. Privatization of wastewater facilities was considered more politically feasible than privatization of drinking water services. Rates are expected to increase slowly under each of the options considered.

Outcome

As of early 1995, no action had been taken with regard to the Tolt plant, no bids had been sought, and additional design work was underway. Considerable uncertainty persists within the Seattle Water Department over whether the plant will ever be built, although some

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[13] Ernst & Young, *Seattle Water Department: Tolt Filtration Plant Privatization Study*, and subsequent interviews.

[14] Ibid.

officials hope the plant will be on-line by 2001. Seattle operations are not regulated by the state commission.

13. West Virginia-American Regional Water System[15]

Overview

West Virginia-American Water Company, a regulated investor-owned utility, is developing a regional water supply system in southern West Virginia that will eventually serve 25,000 customers over a 100-square-mile area and two counties (Mercer and Summers). The project consists of two phases. The first phase involves construction of a Corps of Engineers Dam on the New River and of a drinking water treatment plant at Bluestone Lake. The second phase involves West Virginia-American's operation and continued ownership of the distribution systems serving Hinton and Princeton, as well as operation contracts only for Bluefield, Oakvale Road, and the Pipestem State Park.

Rationale

West Virginia-American owns and operates the water distribution systems in Hinton and Princeton, West Virginia, which are 26 miles apart. Pipestem State Park (a large and growing state park) and Oakvale Road (a state-earmarked economic-development area), are located between the two cities. West Virginia-American had scheduled major renovations at the Hinton and Princeton water treatment plants. The state asked the company to provide large quantities of water to the Pipestem area. Other local water districts also wanted to be served by West Virginia-American. With the cooperation of the state and the Corps, West Virginia-American built a treatment plant at Bluestone Lake that will serve the cities, the park, and the Oakvale Road water district, for a total of approximately 12,000 customers. Eventually, seven other water districts will be interconnected with the regional system. Approximately 25,000 customers will be served by West Virginia-American from the Bluestone Lake plant.

Outcome

Phase 1 of the project, including the treatment plant and main transmission lines, has been completed at a cost of $23 million to West Virginia-American. Phase 2, including distribution lines to the local communities, will cost about $20 million. Funding is anticipated from federal, state, and local sources including grants, West Virginia Development bonds, and $7 million to be raised by the towns, counties, and districts. The state appears to fully support the project. Investor-owned utilities, municipal systems, and water districts are regulated by the West Virginia commission, which has approved Phase I of the project.

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[15] Interview with Michael Miller, West Virginia-American Water Company, on February 15, 1995.

14. Washington, D.C. Aqueduct[16]

Overview

The U.S. Army Corps of Engineers owns and operates the Washington Aqueduct water system through its Aqueduct Division. Following a "boil water alert" in December 1993, the Corps, the U.S. Environmental Protection Agency, and local Health Departments commissioned several consultant studies to identify needed capital improvements, as well as potential financing sources to make the water safe and in compliance with current and future drinking water and pollution-control standards. Washington, D.C. does not regulate water or wastewater utilities.

Rationale

A study of the alternatives for the Aqueduct, prepared by Metcalf & Eddy, was presented to Congress in February 1995. The study reviewed six options for financing $535 million in capital improvements recommended by the EPA (referred to as the ten-year Modernization Plan), and four separate engineering studies. A key rationale for the studies was that the Office of Management and Budget (OMB) recommended that the Corps pay for the improvements from the Corps' operating budget. The Corps uses "pay as you go" financing for capital improvements based on user fees and does not fund capital improvements itself. Beginning in 1927, retail customers had to pay for all capital improvements; eventually, wholesale customers (Arlington County and Falls Church, Virginia) also helped fund improvements.

Metcalf & Eddy considered six financing arrangements to minimize and stabilize the rate impact of rising capital costs:

- Option 1: Federal ownership with federal financing
- Option 2a: Federal ownership with individual customer financing
- Option 2b: Federal ownership with joint customer financing
- Option 3: Nonfederal public ownership with federal financing
- Option 4: Nonfederal public ownership with bond financing
- Option 5: Private ownership with federal financing
- Option 6: Private ownership with nonfederal financing

The study does not advocate a particular option. Option 1 would be the least costly modernization plan ($859 million), with funding from the State Revolving Loan Fund designed to help meet Safe Drinking Water Act costs. Option 6 would be the most expensive plan ($1,219 million), with private ownership and financing through taxable bonds and equity. The privatization option was not deemed compelling if public financing can be arranged. However, the study also concludes that privatization should be given appropriate consideration

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[16] Metcalf & Eddy, *Final Summary Report: Study of Financing and Ownership Options for the Washington Aqueduct,* A Report Submitted to U.S. Army Corps of Engineers (January 11, 1995), and subsequent interviews.

given the technological complexity, substantial operating risks, and significant financing needs of the system.

Outcome

The report on the Aqueduct was completed and sent to Congress and interested parties in early 1995. In February 1995, the Secretary of the Army published a report recommending against privatization (options 5 and 6) and favoring the creation of a public water authority (options 3 and 4).[17] Both reports acknowledged that substantial rate increases would be required to pay for the needed capital improvements. Some discussion of whether the authority should be placed under the jurisdiction of the District public utility commission has occurred.

[17] Togo D. West, Jr., *Washington Aqueduct: Report of the Secretary of the Army* (Washington, DC: Secretary of the Army, 1995), 14.

WASTEWATER CASE STUDIES

15. Auburn, Alabama[18]

Overview

The City of Auburn, Alabama sought to privatize two new wastewater treatment plants that would replace two old ones with inadequate capacity. The plants serve 34,000 people. The competitively bid contract was won by Merscot-Auburn Limited Partnerships, an arm of Metcalf & Eddy that operates more than sixty water, wastewater, and solid waste plants throughout the U.S. The contract was for building and owning the plants and providing operational services for a twenty-five-year period. Tax-exempt bonds totaling $26 million were issued by the city (as the project took place before the federal tax reform of 1986), and $10 million in equity funds were provided by Metcalf & Eddy. Construction was completed in 1986.

Rationale

The key rationale for the project was the need for capital improvement funding. The city was unable to expand the plants because grant funding was not available. Metcalf & Eddy wanted an attractive return on its investment, and Auburn was promised operating efficiencies and possibly lower water rates for customers.

Outcome

Rates for Auburn were lower than they would be under other alternatives because of the equity financing provided by Metcalf & Eddy and operating efficiencies achieved in the plants. Rates had risen substantially prior to the contract and could have tripled under Auburn ownership. Rates are reviewed annually by the city and adjusted to reflect cost increases as specified under the terms of the contract. Some of the savings were due to tax benefits available before 1986. Under the agreement, Auburn can repurchase the plants based on their current market value at any time during the twenty-five-year contract period. Auburn reviewed the option to repurchase the plants in 1992 and decided against this option. No state utility commission approval was required.

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[18] Ernst & Young, *Seattle Water Department: Tolt Filtration Plant Privatization Study,* II-6; U.S. Environmental Protection Agency, *Public-Private Partnership Case Studies*, 56; Randall G. Holcombe, "Privatization of Municipal Wastewater Treatment," *Public Budgeting & Finance* (Fall 1991): 33; and R. V. Anderson Associates, Ltd., *Private Sector Participation in Provision of Halifax-Dartmouth Wastewater Treatment Services,* a study prepared for the Province of Nova Scotia, Volumes 1 & 2 (October 1990), 26, and subsequent interviews.

16. Pelham, Alabama[19]

Overview

In 1985, Pelham contracted with Parsons Engineering Services (a subsidiary of Parsons Corporation) to construct, own, and operate a new wastewater treatment plant for $15.0 million. The plant serves 10,000 people and was completed in 1987. It was subsequently resold to the city in 1992 for $18.0 million in accordance with the provisions of the original contract. Many improvements to the plant were made between 1987 and 1992.

Rationale

Pelham was a low priority on the list of potential federal grant recipients and was badly in need of a wastewater treatment facility. The arrangement relieved the city from the financial burden of construction and initial operation, but allowed eventual ownership of the wastewater treatment facility by the city. Parsons' borrowing power facilitated the financing arrangements and its engineering expertise facilitated early completion of the plant.

Outcome

Apparently, the contract with Parsons was partially successful. After the repurchase in 1992, operating costs declined by $400,000 annually. Parsons projected that rates for wastewater service would be maintained or decreased over time; instead rates were increased. The state utility commission was not involved in this arrangement.

17. Chandler, Arizona[20]

Overview

Chandler needed additional wastewater treatment capacity and in 1985 contracted with Parsons Municipal Services, Inc. (PMSI), to design, build, own, and operate a new treatment facility. The project was financed with $22 million in tax-exempt bonds backed by Parsons, and completed in November 1985. The plant serves 60,000 people.

Rationale

Chandler needed additional wastewater treatment capacity because of rapid growth, but its plant was located on the Gila River Indian Reservation and expansion was prohibited by the Tribe. Land was donated to the city by the Acotillo Group for a tertiary treatment plant that would provide high quality effluent for water reuse. The city was a low priority among the candidates for state or federal grants and officials did not want to increase municipal debt or raise user charges.

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[19] Ibid., Ernst & Young, II-12, and subsequent interviews.

[20] Ibid., Ernst & Young, II-7; and U.S. Environmental Protection Agency, *Public-Private Partnership Case Studies,* 60, and subsequent interviews.

Outcome

Rates were increased, but apparently the increases were less than they would have been if Chandler had built the plant itself. Smaller rate increases were made possible because of the tax-exempt financing of the facility. Chandler is not under state utility commission jurisdiction.

18. Petaluma, California[21]

Overview

The city of Petaluma, California plans to expand its wastewater capacity to treat a maximum wet weather flow of 36 million gallons per day and a dry weather flow of 6.7 million gallons per day. The plant will serve 47,000 people. The city retained a consulting team composed of Ernst & Young and Camp, Dresser & McKee to study three alternatives for the new plant:

- Base Case: City construction (with bids), financing, and ownership. Capital costs were projected at $94-$100 million; operation and maintenance costs were projected at $12-$14 million.
- Option 1: Facility Agreement Delivery Approach. This option would provide for the design, construction, management, and operation of the new facility through a single contract to a consortium of firms. Ownership and low-cost financing would be provided by the city. Capital costs were projected at $85-$89 million; operation and maintenance costs were projected at $11-$13 million.
- Option 2: Service Agreement Delivery Approach. This option would provide for the design, construction, ownership, operation and financing by a single private firm (full privatization). Capital costs were projected at $81-$83 million; operation and maintenance costs were projected at $13-$14 million.

Rationale

The opportunity for faster construction at a lower cost is a key consideration for the city; construction by the city would take about 42 months, compared with 24 months under the service agreement delivery approach. In addition, full privatization would ensure the involvement of expert personnel in all aspects of the construction and operation, provide private financing to relieve the city from taking on additional debt, and transfer project risks to a private firm.

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[21] City of Petaluma, California, *Privatization Act Compliance* and *Summary of Petaluma Privatization Documents* (December 14, 1994); *Request Council Action/Recommendation,* Re: Privatization of the new wastewater facility for Petaluma, California (June 20, 1994); Ernst & Young, *Comparative Service Delivery Alternatives Analysis,* prepared for City of Petaluma, California (May 18,1994); and "Deep Pocket Players Line Up for Another Round of Wastewater Privatizations," *Public Works Financing* 75 (June, 1994): 13, and subsequent interviews..

Outcome

The citizens' committee that reviewed the options unanimously recommended the service agreement approach to the Petaluma City Council. The only option to be bid is full privatization, which entails building, owning, and operating the wastewater plant. The recommendation was approved on June 20, 1994, after which the city planned to issue a request for proposals on a new wastewater system to be fully privatized.[22] Five major firms active in operating and owning municipal water and wastewater systems are expected to submit bids. Engineering consultants estimated construction costs to range between $4 and $6 million per million gallons per day; the bids were expected to range from $25 to $40 million based on the dry weather capacity rating. According to state law, the selected vendor must be certified by or secure an exemption from the California Public Utilities Commission. Petaluma officials are completing a required environmental impact study in support of the exemption from economic regulation because they want to retain control over ratemaking and related issues. The request for proposals is expected in August 1995, following completion of the impact study.

19. Mount Vernon, Illinois[23]

Overview

Officials in Mt. Vernon, Illinois wanted to maintain ownership of the city's wastewater facility, but the plant needed to be redesigned and upgraded. The city contracted with Environmental Management Corporation (EMC) in 1987 to upgrade and expand the facility and operate it for twenty years. Ownership of the facility was retained by the city. A sales tax was used to finance the project, which cost $6.6 million. The facility opened in November 1988 and serves 17,470 people.

Rationale

Prior to the contract the Mt. Vernon treatment plant was poorly operated, in part due to labor problems. The city also had compliance problems with state environmental regulators and was not permitted to add hookups until the improvements were completed. Thus, the city could not grow without improving the plant. EMC proposed the arrangement to the city because the company wanted to enter the market for wastewater operations as part of its corporate growth strategy. EMC considered the project attractive and city officials accepted EMC's proposal because it was financially attractive.

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[22] Because of the size of this project, officials of the U.S. Environmental Protection Agency believe that the Petaluma case may be precedent setting; the EPA awarded a grant to the city to document its privatization experience.

[23] U.S. Environmental Protection Agency, *Public-Private Partnership Case Studies,* 71; and R. V. Anderson Associates, Ltd., *Private Sector Participation in Provision of Halifax-Dartmouth Wastewater Treatment Services,* 39, and subsequent interviews.

Outcome

Since EMC took over the plant, the system has performed well and is in compliance with environmental regulations. Wastewater rates increased but less than they would have under city management due to operational efficiencies achieved by EMC. The use of sales tax revenue to finance the project lessened the impact on rates. No regulatory review was required because the state utility commission has no jurisdiction over municipal operations.

20. Indianapolis, Indiana[24]

Overview

The city of Indianapolis signed an operational contract on December 23, 1993 with a consortium of private firms to operate the city's Advanced Wastewater Treatment Plant (AWT). The contract agreement runs about seventy pages in length, is rather comprehensive, and appears to cover almost every eventuality. The consortium, known as the White River Environmental Partnership, consists of several large national and international companies: LAH White River Corporation, JMM White River Corporation, Indianapolis Water Company (IWC) Services, IWC Resources Corporation, GWC Operational Services, JMM Operational Services, Lyonnaise American Holdings, Lyonnaise des Eaux-Rumey, GWC Corporation, and Montgomery Watson Americas. Savings of $65 million over five years were anticipated. The agreement specified a payment to the consortium of about $15 million for the first year of operation and a lower annual fee in the subsequent five years. Approximately 850,000 people are served by the plant. The Indianapolis wastewater system is not commission regulated.

Rationale

According to the consultant's report, the city of Indianapolis wanted to "determine the value and alternatives for leveraging the AWT assets to generate new sources of revenue for wastewater capital improvements."[25] Ernst & Young was hired to study six options for the city, including but not limited to selling the city's assets. One option was operation of the system by a private contractor; another was the creation of an investor-owned system (privatized ownership). Another purpose of the analysis was to determine the value of the system, in case of a possible sale to private investors. The consultant recommended against private ownership primarily because significant rate increases would be needed to offset the loss of a 35 percent property tax subsidy provided under public ownership. The city selected the partnership option, which provides tax advantages along with substantial potential savings through operational efficiencies.

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[24] Ernst & Young, *Financial Management and Operational Assessment Study for Advanced Wastewater Treatment Facilities* (Indianapolis, IN: Indianapolis Department of Public Works, 1993), and subsequent interviews.

[25] Ibid., I-2.

Outcome

Operations were transferred to the consortium on January 30, 1994. Between 1993 and 1994, the facility's operation and maintenance budget was reduced from $30 to $17 million; effluent violations were reduced from 7 to 1; employee grievances were reduced from 38 to 1; and public employees were reduced from 322 to 196.[26] Although rate increases were recommended and anticipated, the city has been able to hold rates constant due to cost savings associated with the arrangement. However, rates are expected to grow slowly over time because of numerous factors, including inflation. Because the city will maintain ownership, the state commission will not have jurisdiction over the facility's operation or wastewater service rates. However, one member of the consortium is an affiliate of the city's investor-owned water utility.

21. New Orleans, Louisiana[27]

Overview

The Sewerage Board of New Orleans, Louisiana signed a five-year contract in 1991 with Professional Service Group (PSG) to operate and maintain two wastewater treatment plants. The plants serve 480,000 people.

Rationale

Annual operating savings of $750,000 were projected due to improved worker productivity. A major reason for the arrangement was to circumvent civil service limitations on employment and job changes. Moreover, civil service salary caps did not allow the city to hire the most technically qualified personnel to operate the plant.

Outcome

Operational savings have been achieved and are expected to grow in future years, which should translate into lower rates. Rates have not been increased since 1987. The city of New Orleans is not under the jurisdiction of the state commission, so no regulatory review was involved.

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[26] "Indy Sewage Contract is a Success," *Privatization Watch* no. 221 (May 1995).

[27] Ernst & Young, *Seattle Water Department: Tolt Filtration Plant Privatization Study,* II-12, and subsequent interviews.

22. Edgewater, New Jersey[28]

Overview

The Borough of Edgewater selected Latepro Corporation in 1988 to build a new wastewater treatment facility and operate it for five years. The facility is owned by the Municipal Utility Authority and was financed with $10 million of tax-exempt bonds. Latepro is a subsidiary of Linde A.G. of Germany. The contractor receives a monthly fee and a predetermined volumetric rate that escalates according to specific indices specified in the contract. Cost increases of five percent or more must be absorbed by Latepro. The facility was completed in July 1989 and serves 5,000 people.

Rationale

Edgewater had environmental compliance problems. To avoid fines, the city needed to make improvements that it could not finance and implement on its own. The arrangement with Latepro made it possible to construct the plant faster and at a lower cost than through traditional means. Latepro found the project attractive and consistent with its corporate strategy to enter a "growth business."

Outcome

No rate increases were expected because hook-ups from new housing developments would cover the cost of the plant. Rate increases to existing homeowners were not expected. Edgewater is not under state commission jurisdiction. In 1992, the contract with Latepro was renewed for five years.

23. East Aurora, New York[29]

Overview

East Aurora, New York privatized the expansion and improvement of its wastewater treatment plant. In 1985, Environmental Elements Corporation (ENELCO) was granted a contract to design, build, and own the plant; the village can buy the plant back after twenty years. Tax-exempt bonds totaling $7.4 million were issued by the New York Environmental Authority and a small amount of equity financing was provided by ENELCO. The plant was completed in 1987 and serves 10,700 people.

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[28] R. V. Anderson Associates Ltd., *Private Sector Participation in Provision of Halifax-Dartmouth Wastewater Treatment Services,* 31; and U.S. Environmental Protection Agency, *Public-Private Partnerships Case Studies*, 79, and subsequent interviews.

[29] Ernst & Young, *Seattle Water Department: Tolt Filtration Plant Privatization Study,* II-9; and Holcombe, "Privatization of Municipal Wastewater Treatment," 34, and subsequent interviews.

Rationale

The village was under a consent order and a threat of large fines because its wastewater treatment plant was not in compliance with state and federal environmental regulations. The village was not able to acquire state or federal grants and did not want to use its own financial resources to make the necessary improvements. The village sent out sixty requests for proposals to potential contractors, received only four responses, and chose ENELCO.

Outcome

Rates went up dramatically, from $25 to $250 the first year of the contract, as they would have under any plan to improve the facility. Operational efficiencies provided through ENELCO were expected to help keep rates down over time. The arrangement did not fall under state commission jurisdiction. East Aurora repurchased the system for $8.6 million in 1994, and plans to solicit another operator in 1995. ENELCO prefers ownership along with operations, and did not seek to renew its contract with the city.

24. Miami Conservancy District, Ohio[30]

Overview

The Franklin Area Wastewater Treatment Plant (FAWWTP) serves 25,000 people in the Ohio municipalities of Carlisle, Franklin and Germantown, and parts of Warren and Montgomery counties. The plant was owned by the Miami Conservancy District (MCD). The Raftelis Environmental Consulting Group, was retained by the municipalities to study several options for the district. The consultant recommended selling the plant to Wheelabrator EOS, a subsidiary of Wheelabrator Technologies, for $6.8 million. The sale was expected to be finalized in early 1995. The $6.8 million will be paid to the three communities. Commission approval is not required.

Rationale

MCD officials wanted to sell the plant so that the district could use its financial and administrative resources for alternative conservancy projects, particularly flood control and water resource management. Three options were studied:

- Continued ownership and management by MCD.
- Transfer of ownership and management to a regional sewer district organized under Ohio law (Ohio Revised Code 6119).

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[30] Raftelis Environmental Consulting Group, Inc., *Feasibility Analysis for Alternative Ownership and Management of the Franklin Area Wastewater Treatment Plant,* October 26, 1993; William G. Reinhardt, "Special Report: Ohio Wastewater Asset Sale Will Open Up Infra-Refinance Market," *Public Works Financing* 75 (June 1994): 1-6, and subsequent interviews.

- Transfer of ownership and management to Wheelabrator Technologies (Wheelabrator EOS).

The detailed financial analysis by the consultant identified the privatization option as superior. Substantial operational savings were anticipated. Wheelabrator EOS contracts with approximately thirty communities throughout the United States for water and wastewater treatment plant operations. The company's proven record made privatization attractive to the citizens of the participating communities. Public involvement was emphasized in every aspect of the negotiations.

Outcome

Customers of FAWWTP are expected to enjoy lower rates under privatized ownership. Future rate increases will be based primarily on the consumer price index. The state public utility commission is not involved in the arrangement. In fact, the agreement was designed to avoid bringing the system under commission jurisdiction, which the consultant believed would lead to higher rates. Wheelabrator EOS will essentially serve as a wholesale provider to the municipalities, which in turn will serve retail customers in unincorporated areas.

The affected municipalities have agreed to seek all necessary permits and other approvals to proceed with the sale. If approved with favorable tax treatment, many water and wastewater systems could use the same techniques used in this case, especially if the municipality or other government entity is in need of refinancing and its original federal grants for wastewater facilities have been fully amortized. As of early 1995, the agreement was pending based on the approval of various government entities. Region V of the U.S. Environmental Protection Agency approved the project in March 1995 and the Conservancy anticipated finalization by the summer of 1995. A recent edition of *Public Works Financing* highlighted this case for its potential in setting a major precedent for privatization.[31] According to the consultant representing the municipalities, the project could lead to a swell of similar agreements across the country.

[31] Ibid.

25. Hood River, Oregon[32]

Overview

Hood River contracted with Operations Management International (OMI) in 1983 to operate and maintain the community's wastewater treatment plant. OMI receives an annual fee paid for through user fees. The system serves 5,000 people.

Rationale

Hood River lost a major customer, resulting in excess capacity at its wastewater treatment plant. The loss of the customer also resulted in the loss of two-thirds of the system's operating revenues. In addition, the inexperience of the facility's staff led to fears about the potential of the deterioration of effluent quality. OMI negotiated with Gresham, a nearby city, to treat the city's sludge at the Hood River plant. The arrangement made use of Hood River's excess capacity and provided additional revenues to the city. A public-relations program helped keep Hood River residents informed at every step of the transaction, and these efforts are considered a major factor behind the successful contractual arrangement with OMI.

Outcome

Because of the efficiencies gained through OMI operations, user fees remained constant. A pending rate increase by Hood River was delayed until 1993. Hood River maintained ownership, so the arrangement did not fall under state utility commission jurisdiction.

26. Greenville, South Carolina[33]

Overview

In 1987, the Western Carolina Regional Sewer Authority (WCRSA) entered a twenty-year agreement with Metcalf & Eddy to build, own and operate a new wastewater treatment facility. Metcalf & Eddy provided $3.8 million in equity financing and receives a monthly fee for operating the plant. The balance of the cost was covered through tax-exempt bonds totaling $19.3 million, which were considered essential to the project. The plant was completed in 1989 and serves 300,000 people. The WCRSA repurchased the facility for $22 million in 1990, when Metcalf & Eddy sought to sell the system to a third party and raise cash for other acquisitions. Metcalf & Eddy continued to operate the system for the WCRSA until 1993.

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[32] U.S. Environmental Protection Agency, *Public-Private Partnership Case Studies*, 83, and subsequent interviews.

[33] R. V. Anderson, *Private Sector Participation in Provision of Halifax Dartmouth Wastewater Treatment Services,* 35, and subsequent interviews.

Rationale

Economic growth in the areas near Greenville was constrained because of the limited treatment capacity of Greenville's wastewater treatment facility. The city needed a facility that could be built quickly and at a low cost. Metcalf & Eddy could achieve these goals and wanted to provide wastewater treatment services as part of its business-growth strategy.

Outcome

Sizeable operational efficiencies were projected to help keep rates down in comparison to the rates that would have resulted from continued city management. However, some doubts exist about whether the projected economies were realized. By 1990, the WCRSA determined that it could operate the facility at a lower cost than Metcalf & Eddy, and Metcalf & Eddy was anxious to liquidate the plant. The operating contract with Metcalf & Eddy expired in 1993. The arrangement was not under state commission jurisdiction in South Carolina.

27. Halifax-Dartmouth, Nova Scotia[34]

Overview

The Canadian Government and the Province of Nova Scotia hired a consortium of consultants in 1990 to study the options for constructing a 40 million gallons daily wastewater treatment facility costing $250 million for the cities of Halifax and Dartmouth in Nova Scotia, Canada. The goal of the study was to determine whether private participation in the project would be beneficial and preferable to the traditional public-sector approach. Three models were studied:

- Model A: Public Sector ownership, procurement and operation
- Model B: Contracting operation and maintenance services
- Model C: Full privatization, including design and ownership

The analysis includes a definition of privatization; a literature review; case studies of privatization in Great Britain and the United States; analyses of legislative, taxation, and public policy issues; an assessment of private sector interest; and an exploration of various forms of private financing. The plant will serve about 300,000 persons.

Rationale

Based on case studies and simulations, the lengthy study concluded that private construction costs would be between 20 and 50 percent less than the public approach. In addition, annual operating costs would be 15 to 25 percent lower under either privatization arrangement. Contracting operation and maintenance would be most financially attractive to users. However, full privatization appears more favorable when given the same tax treatment

[34] Ibid., and subsequent interviews.

as the other two models. According to the consultants' report, private sector participation in the project would benefit customers, the government, and the private sector.

Outcome

As of late 1994, construction of the plant had not been initiated and doubts remain about whether the facility will ever be built. The estimated cost is now at $400 million and Nova Scotia is having significant financial stresses. Another consultant, M. M. Dillon, has been hired to review "privatization processes." The project is in limbo currently and one expert doubts that it will go forward.

28. Santa Margarita Water District, California[35]

Overview

On June 9, 1994, the California-American Water Company applied for a certificate of public convenience and necessity before the California Public Utilities Commission to create a new division for the purpose of acquiring the assets and operations of the Santa Margarita Water District for $305 million. The District serves 74,000 people.

Rationale

The Santa Margarita Water District (SMWD) is facing large debt-service requirements and the need to refinance bonded debt in order to reduce stress on its cash flow needs. Also California-American Water Company (Cal-American) obtained signatures from 5 percent of the district's voters, which was sufficient to put the dissolution of the district before the Local Agency Formation Commission for a ruling. The privatization consists of the following actions:

- Santa Margarita Water District (SMWD) must be dissolved.
- Cal-American must acquire the assets of SMWD, satisfy its creditors and supply water and wastewater service to the customers of SMWD. Cal-American estimated the sale price at $305 million, enough to redeem all of SMWD's debt.
- Former SMWD customers will be served by a separate division of Cal-American (the Orange County Division).
- Cal-American must establish rates for the new division and has ask the California Public Utilities Commission to set "transition period" rates for three years that are similar to SMWD's current rates. Following the transition, regular rate proceedings will be followed.

Outcome

Apparently, SMWD customers are not entirely supportive of the sale, even though it may lessen future property tax burdens. After the three-year transition period, rates will rise because tax revenues and other assessments on users will not be available to Cal-American, and because new capital costs and a rate of return will be factored into the new rates. Rate projections are not contained in the application, although the applicants note that increases "may be substantial for some users." As of early 1995, the application was pending in a

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[35] *Application for Certificate of Public Convenience and Necessity,* Application filed by California-American Water Company before California Public Utility Commission to acquire Santa Margarita Water District, U-210-W (June 9, 1994), and subsequent interviews.

proceeding before the California Public Utilities Commission (U-210-W). Cal-American strategists assert that rate regulation by the state is an advantage, since SMWD rates are believed to be substantially below the actual cost of service (and therefore inefficient). State regulation is considered a disadvantage by Santa Margarita customers because the district will lose control over rates and system growth through annexation. Cal-American and its Orange County Division will continue to be regulated as investor-owned utilities.

29. Litiz, Pennsylvania[36]

Overview

The Borough of Litiz, Pennsylvania contracted with PSC Engineering in June 1989 to operate and maintain its water and wastewater systems, while the Borough maintains ownership of the system assets. Under the contract, PSC receives a variable monthly fee and is reimbursed for unusual expenses. For 1995, an annual fee of $720,400 is expected. The system serves 16,500 people.

Rationale

Litiz lacked the personnel and expertise to upgrade and operate its water and wastewater systems to stay in compliance with state and federal environmental quality standards. Litiz also was too financially burdened to upgrade the system on its own. One issue was that the city's unionized workers demanded wages that were quite high. City officials also believed that a contractual arrangement could help both systems achieve operational efficiencies.

Outcome

Under PSC management, wastewater rates have not changed since 1983 due to increased operating efficiencies. Water rates rose in 1989, but they would have risen substantially more if Litiz had financed the needed improvements and continued to operate the water system. Approval of the state commission was not needed since Litiz maintains ownership of the water and wastewater systems under the Litiz Sewer Department.

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[36] U.S. Environmental Protection Agency, *Public-Private Partnership Case Studies*, 107, and subsequent interviews.

30. Gettysburg, Pennsylvania[37]

Overview

The Gettysburg Municipal Utility Authority has a contract with American Commonwealth Management Services Company (ACMS) to operate its water and wastewater systems. The system serves 8,000 people including the Gettysburg National Park and its 1.4 million visitors a year.

Rationale

In the early 1940s, Pennsylvania legislation allowed cities to form Municipal Utility Authorities to own and operate their own utility systems. In 1943, Gettysburg formed its authority and purchased the water and wastewater systems that were previously owned by a predecessor company of the American Water Works Company. Gettysburg needed professional management for the systems and contracted with the predecessor company to operate the systems. Eventually, the contract was signed with ACMS, a subsidiary of American Water Works Company. The contract is renewed annually after the authority's board of directors reviews five-year capital and operations budgets presented by ACMS.

Outcome

The authority reviews capital and operating costs and approves all rate increases. All parties appear to be very satisfied with the arrangement and no disputes have arisen. In fact, the case appears to be a model for successful privatization. The agreement does not fall under state utility commission jurisdiction since the ownership of utility assets has always remained with the authority.

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[37] Interview with Steven Schmidt, President of ACMS, on March 30, 1995.

APPENDIX B

CASE STUDIES OF MUNICIPALIZATION

MUNICIPALIZATION CASES

1. North Port, Florida[38]

Overview

General Development Utilities sold its West Coast Water and Wastewater Division to the city of North Port in Charlotte County, Florida in December 1992 for $16.5 million. The system services approximately 30,000 people.

Rationale

The city of North Port bought the systems from the original developer to gain control over water and wastewater services, which were to be used as an important part of the city's development plans. The city also wanted to regulate its own rates and operations and not be subject to the jurisdiction of the Florida Public Service Commission. Finally, local citizens wanted more input into the operation of the systems.

Outcome

The city apparently has operated the systems as efficiently as General Development Utilities. Wastewater rates decreased and water rates increased due primarily to the loss of a major wholesale customer. The city and General Development had experienced several disputes, including litigation over the price offered by the city, which took three years to arbitrate. The citizens seem to be very happy with city ownership.

2. Palm Beach County, Florida[39]

Overview

Meadowbrook Utility Systems, which served a suburb of Palm Beach, Florida was sold to Palm Beach County in December 1988 for $3.0 million. The water system serves 6,250 people.

Rationale

Meadowbrook was surrounded by Palm Beach County and the city wanted to control growth and development in the area.

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[38] Interview with Cynthia Mick, North Port Director of Utilities, on March 23, 1995.

[39] Interview with Dana Moss, Assistant Director, Palm Beach Water Department, on March 24, 1995.

Outcome

In 1987, the Florida commission ordered Meadowbrook to reduce rates and provide a customer refund of excessive charges. The sale took place on December 9, 1988 and the commission's final order was issued on December 13, 1990. A refund of regulatory fees to the utility, based on a reduction in the company's allowed revenues, also was being processed at the time of the order. Water rates in Meadowbrook had been higher than those in Palm Beach; Meadowbrook rates were kept constant until 1993, when they were decreased to equal Palm Beach rates. Meadowbrook customers apparently are happy with the outcome of the sale.

3. Santa Fe, New Mexico[40]

Overview

The City of Santa Fe, New Mexico recently participated in a hearing before the New Mexico commission on its application to acquire the water system serving the community. The Santa Fe system had been owned and operated by the Sangra de Christo Water Company, a subsidiary of Public Service Company of New Mexico. Santa Fe has proposed paying $51 million for the system, to be financed with tax-exempt bonds that already have been approved by local voters. The acquisition would result in the cancellation of the company's operating certificate. The system serves 75,000 people.

Rationale

Sangra de Christo has served Santa Fe for more than one hundred years, even before the city was incorporated. Local public officials have been unhappy with Sangra de Christo for several years, and the company offered the system for sale to the city on numerous occasions. A revenue-bond referendum to buy the water company failed to pass in 1985, partly because citizens were more unhappy with the local politicians than with Sangra de Christo.

The Public Service Company of New Mexico offered to sell Sangra de Christo again in 1993 because the parent company wants to specialize in its core business of electricity generation and distribution. A referendum passed to allow the sale of $84 million in gross receipts revenue bonds, of which $64 million would be used to buy Sangra de Christo. Of the $64 million, $51 million is the purchase price and $13 million is earmarked for capital improvements. The commission must approve Santa Fe's application, including the purchase price and other aspects of the transaction, to assure continued service at an acceptable quality to the system's customers. Upon approval by the commission, the gross receipts revenue bonds will be converted to water-revenue bonds.

Several other aspects of this purchase are noteworthy. First, a task force recommended that the Mayor use condemnation proceedings to acquire Sangra de Christo, but the Mayor did not do so. Second, Santa Fe wants to control the growth of the city and apparently found that

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[40] Interview with Joseph Gonzalez, Santa Fe Utilities Department, on March 23, 1995.

private ownership of the water system would interfere with this goal. Third, the rates and operations of Sangra de Christo were regulated by the state rather than the city, which the city did not prefer. Fourth, several bidders wanted to buy Sangra de Christo but, after passage of the referendum, Santa Fe's offer was the only acceptable one. Finally, according to the terms of the sale, Sangra de Christo will operate and maintain the system for four years and receive an annual fee of 10 percent of operation and maintenance expenses. All employees of Sangra de Christo will be employed by Santa Fe under a recently signed collective bargaining agreement applying to all city employees.

Outcome

An order from the New Mexico commission was pending in early 1995, with a decision expected in the summer of 1995. Water rates under Santa Fe's ownership are expected to remain the same. The city believed that the rates were too high under Sangra de Christo management, even though Sangra de Christo had not implemented a rate increase since 1985.

4. Marysville, Ohio[41]

Overview

The city of Marysville, Ohio purchased the division of Ohio Water Service Company that served the city on June 27, 1991 for a price of $9.2 million. The price of the water system was based on the value of new replacement cost less depreciation. The system serves 10,000 people.

Rationale

The city claimed that water rates were too high compared with surrounding cities, even though Ohio Water Service Company had not raised its water rates since 1984. Marysville customers considered the large rate increases imposed in the late 1970s and early 1980s to be unacceptably high, which precipitated the city's interest in buying the water system. City officials also wanted control of the system because of its importance to local annexation strategies.

Outcome

The Ohio commission gave cursory approval of the sale, since the city has the right to acquire the water system. Water rates were not reduced and remained constant after the purchase. The city lost $150,000 in property tax revenues and has not annexed any new service areas. Citizens apparently are happy with the purchase.

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[41] Interview with Kenneth Kralic, Director of Administration, on March 23, 1995.

5. Washington Court House, Ohio[42]

Overview

The city of Washington Court House, Ohio purchased the division of the Ohio Water Service Company that served the city on December 16, 1993 for a price of $10.8 million. The price of the water system was based on the value of new replacement cost less depreciation. The system serves 15,500 people.

Rationale

Over several years, the city had made at least three attempts to purchase the water system. The primary reason for the eventual purchase the city's desire to control the direction and pattern of local growth, although controversy over high rates was a major issue as well. City officials claimed that water rates were too high compared with surrounding communities. Proponents of the purchase also believed that regulation by the Ohio commission added to the private utility's costs and these regulatory costs would not be incurred under city ownership.

Outcome

Ohio Water Service Company opposed the sale at every turn and petitioned for a referendum on the city's decision to purchase the water system. Voters backed the city council. The city had the right of eminent domain and litigation ensued when negotiations over the sale price broke down. Prior to the jury's decision, the parties agreed to the sale price. The Ohio commission gave cursory approval since the city has the right to acquire the water system. Water rates were not changed after the acquisition. The city lost $180,000 in property tax revenues following its purchase.

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[42] Interview with Joseph Burbage, Superintendent, on March 24, 1995.

APPENDIX C

CONTACTS FOR SELECTED WATER AND WASTEWATER CASE STUDIES

TABLE C-1
CONTACTS FOR SELECTED WATER AND WASTEWATER
PRIVATIZATION CASE STUDIES

PROJECT	CONTACT	TELEPHONE
WATER CASES		
1. Scottsdale, Arizona	James Clune, Plant Manager James Turnbill, Resources Analyst Karen Fleming, Resources Accountant	602-585-0890 602-391-5688 602-391-5673
2. Sabine Parish, Louisiana	Jeff Pruitt, EBARB General Manager	800-346-7123
3. Aberdeen, New Jersey	Greg Seaman, Borough Manager Ivan Netzger, Principal Engineer, Birdsall	908-566-7200 908-681-1165
4. Mendham, New Jersey	Victor Woodhull, Borough Administrator	201-543-7152
5. Union Beach, New Jersey	Mary Sabik, Borough Clerk	908-264-5657
6. Loganville, Pennsylvania	David Davidson, Consulting Engineer	717-846-4805
7. Malvern, Pennsylvania	Patrick McGuigan, Borough Manager	610-644-2602
8. Schuykill, Pennsylvania	Theodore Ryan, Board of Supervisors	610-933-5843
9. Uwchlan, Pennsylvania	Patricia Morrison, Township Treasurer	610-363-9450
10. Westmoreland, Pennsylvania	Christopher Kerr, Resident Manager	412-837-6406
11. West Whiteland, Pennsylvania	Steven Ross, Township Manager	610-363-9525
12. Seattle, Washington	Gerald Allen, Senior Economist	206-233-7905
13. West Virginia-American Regional	Michael Miller, West Virginia-American	800-285-3470
14. Washington, D.C.	John Burns, Army Corps of Engineers	202-272-1718

TABLE C-1 (continued)

PROJECT	CONTACT	TELEPHONE
WASTEWATER CASES		
15. Auburn, Alabama	Rex Griffin, City Engineer	334-821-9050
16. Pelham, Alabama	Kenneth Holler, Director of Public Works	205-663-3963
17. Chandler, Arizona	Paul Bishop, Wastewater Superintendent Barry Webber, Management Services Dir.	602-786-2756 602-786-2250
18. Petaluma, California	Thomas Hargis, Director of Engineering Warren Salmons, City Manager	707-778-4304
19. Mount Vernon, Illinois	William Hertenstein, Water Superintendent	618-242-6819
20. Indianapolis, Indiana	Charles Bardonner, Capital Asset Mngmt.	317-327-4000
21. New Orleans, Louisiana	Don Crowder, Liaison Engineer	504-585-2365
22. Edgewater, New Jersey	Kevin Binin, Authority Superintendent Thomas Gilligan, Latepro Services Director	201-943-9019 914-747-3500
23. East Aurora, New York	Gerald Hiller, Village Admininstrator	716-652-6000
24. Miami Conservancy District, Ohio	James Rozelle, General Manager	800-451-4932
25. Hood River, Oregon	Ronald Bradsby, Civil Engineer	503-386-1488
26. Greenville, South Carolina	Richard Roberson, Finance Director Raymond Orvin, Executive Director	803-299-4011 803-277-6996
27. Halifax-Dartmouth, Nova Scotia	Mr. Morrison, R.V. Anderson Engineer	416-497-8600
WATER AND WASTEWATER CASES		
28. Santa Magarita, California	John Schatz, SMWD Manager	717-459-6400
29. Litiz, Pennsylvania	Al Olah, City Council John Pettyjohn, Mayor	717-626-7079 717-626-4139
30. Gettysburg, Pennsylvania	Steven Schmidt, ACMS President	717-531-3330

TABLE C-1 (continued)

PROJECT	CONTACT	TELEPHONE
MUNICIPALIZATION CASES		
1. North Port, Florida	Cindy Mick, Director of Utilities	813-426-9500
2. Palm Beach, Florida	Dana Moss, Asst. Dir. Water Department	407-641-3429
3. Santa Fe., New Mexico	Joseph Gonzales, Utilities Department	505-984-6630
4. Washington Court House, Ohio	Joseph Burbage, Water Dept. Superintendent	614-335-0150
5. Marysville, Ohio	Kenneth Kraus, Director of Administration	513-642-6015

Source: Authors' construct. Interviews were conducted in February and March, 1995.

APPENDIX D

COMMISSION-REGULATED WATER AND WASTEWATER UTILITIES AND SELECTED COMMISSION POLICIES

TABLE D-1

COMMISSION-REGULATED WATER AND WASTEWATER UTILITIES

State Commission	WATER SYSTEMS				WASTEWATER SYSTEMS			
	Investor-owned	Municipal	Water Districts	Nonprofit	Investor-owned	Municipal	Sewer Districts	Nonprofit
Alabama	11	na	na	na	na	na	na	na
Alaska	21	1	na	na	3	1	na	na
Arizona	354 [407]	na	na	na	35 [39]	na	na	na
Arkansas	3	na	na	na	1	na	na	na
California	210	na	na	na	14	na	na	na
Colorado	3	na	na	na	na	na	na	na
Connecticut	50	na	na	na	1	na	na	na
Delaware	16	na	na	na	na	na	na	na
Florida	201 [1,344]	na	na	0	260 [1,344]	na	na	0
Hawaii	13	na	na	na	10	na	na	na
Idaho	24	na	na	na	na	na	na	na
Illinois	63 [100]	na	na	na	28	na	na	na
Indiana	22	170	9	80	55	na	na	14
Iowa	1	na	na	na	na	na	na	na
Kansas	5	na	na	na	na	na	na	na
Kentucky	32	na	144	30	97	na	13	na
Louisiana	110	na	na	na	145	na	na	na
Maine	36	28	89	na	na	na	na	na
Maryland	27 [28]	na	na	na	8	na	na	na

TABLE D-1 (continued)

State Commission	WATER SYSTEMS				WASTEWATER SYSTEMS			
	Investor-owned	Municipal	Water Districts	Nonprofit	Investor-owned	Municipal	Sewer Districts	Nonprofit
Massachusetts	31	na	77	1	na	na	na	na
Michigan	1	na	na	18	na	na	na	na
Mississippi	69	76	30	550	70	na	23	na
Missouri	72	na	na	na	75	na	na	na
Montana	36	116	na	na	na	na	na	na
Nebraska	10	na	na	na	na	na	na	na
Nevada	19	na	na	36	5	na	na	na
New Hampshire	41	1	na	na	1	na	na	na
New Jersey	59 [630]	11	na	4	21	na	na	na
New Mexico	38	na	6	na	11	na	6	na
New York	334	na	na	20	na	na	na	na
North Carolina	315	na	na	na	93	na	na	na
Ohio	27	na	na	na	10	na	na	na
Oklahoma	24	na	na	na	na	na	na	na
Oregon	112	na	na	na	na	na	na	na
Pennsylvania	205	53	na	na	76	6	na	na
Rhode Island	2	5	na	na	na	1	na	na
South Carolina	65 [400]	na	na	na	58	na	na	na
Tennessee	7	na	na	na	4	na	na	na
Texas	1,200	500	750	850	177	416	77	23

TABLE D-1 (continued)

State Commission	WATER SYSTEMS				WASTEWATER SYSTEMS			
	Investor-owned	Municipal	Water Districts	Nonprofit	Investor-owned	Municipal	Sewer Districts	Nonprofit
Utah	24	na	na	na	3	na	na	na
Vermont	51	na	na	na	1	na	na	na
Virginia	71	na	na	na	19	na	na	na
Washington	85 [425]	na	na	na	na	na	na	na
West Virginia	52	160	175	28	42	146	80	0
Wisconsin	11	556	na	na	2	56	na	na
Wyoming	15	na	na	na	na	na	na	na
Total Commissions Regulating	46	12	8	11	28	6	5	4
Approximate Number of Utilities	4,178	1,677	1,280	1,617	1,325	626	199	37

Source: 1994 NRRI Survey on State Commission Regulation of Water Utilities. The number of utilities and systems is approximated for many states.

Nonprofit includes homeowners' associations, cooperatives, and other not-for-profit systems.

na = not applicable

[ ] = number of systems, if available; some utilities operate more than one system.

TABLE D-2

COMMISSION TREATMENT OF ACQUISITION ADJUSTMENTS

State	Amortized		Ratebase inclusion	Comments
	Above-the-line	Below-the-line		
Alabama	Yes	Yes	Yes	
Alaska		Yes		
Arizona				Rarely allowed
Arkansas		Yes		
California	Yes	Yes		
Colorado	Yes	Yes		
Connecticut	Yes	Yes		
Delaware				Case-by-case
Florida	Yes			Case-by-case
Hawaii		Yes		
Idaho	Yes	Yes		Case-by-case
Illinois		Yes		
Indiana	Yes		Yes	
Iowa				Case-by-case
Kansas		Yes		
Kentucky	(a)	Yes		
Louisiana		Yes		
Maine		Yes		
Maryland	Yes		Yes	
Massachusetts				Not allowed
Michigan	Yes			
Mississippi				None
Missouri		Yes		
Montana		Yes		
Nevada	Yes	Yes		

TABLE D-2 (continued)				
State	Amortized		Ratebase inclusion	Comments
	Above-the-line	Below-the-line		
New Hampshire	Yes			
New Jersey	Yes	Yes		Case-by-case
New Mexico		Yes		
New York		Yes		
North Carolina				Case-by-case
Ohio				None
Oklahoma				Case-by-case
Oregon		Yes		
Pennsylvania	Yes	Yes		
Rhode Island				Not available
South Carolina	Yes	Yes	Yes	
Tennessee		Yes		
Texas	Yes		(b)	
Utah				Never considered
Vermont		Yes		
Virginia	Yes		Yes	
Washington		Yes		
West Virginia				Other
Wisconsin				Case-by-case
Wyoming			Yes	Case-by-case

Source: Janice A. Beecher and Nancy N. Zearfoss, *1992 NRRI Survey on Commission Ratemaking Practices for Water Utilities* (Columbus, OH: The National Regulatory Research Institute, 1992), 43-48.

Notes:
(a) Negative amortization above-the-line.
(b) Original cost only included in rate base.

TABLE D-3

COMMISSION REGULATION OF AFFILIATE TRANSACTIONS

State	The Commission Prescribes Special Requirements for Transactions with Affiliates	
	Accounting	Reporting
Alabama	Yes.	Investigation by staff.
Alaska	Yes.	Yes
Arizona	Same as FERC and FCC with additional	New rules certified in 1992 require
Arkansas	Reviewed in rate cases.	Same.
California	Accounting requirements same as FERC	File special reports annually;
Colorado	Yes.	Affiliate transactions under continual
Connecticut	Must be at cost or reasonable.	Service contract charges from affiliates
Delaware	Reasonableness of transactions is	Reasonableness of transactions is
Florida	Yes.	Yes.
Hawaii	Yes.	Must submit consolidated statement
Idaho	Reviewed in rate cases.	No affiliated interest statute.
Illinois	Approve all transactions except those	File reports relative to such
Indiana	Reviewed in rate cases.	No affiliated interest statute.
Iowa	Records of transactions must be	Contracts with affiliates must be filed
Kansas	Making adjustments for cases of	Identify related companies in annual
Kentucky	Per system of accounts - reviewed in	Same.
Louisiana	Insofar as certain transactions are	Not available.
Maine	Only as occasion requires.	As part of annual report.
Maryland	No special requirements prescribed;	Not available.
Massachusetts	To extent they affect regulated utility	Requires abbreviated report from each
Michigan	Per system of accounts.	In rate case filing requirements and
Mississippi	Per system of accounts.	Contracts to be filed with
Missouri	Case by case review.	Case by case review.
Montana	Must be absolutely separate.	All transactions are kept separately.
Nevada	Depends upon specific transactions.	Not available.

TABLE D-3 (continued)		
State	The Commission Prescribes Special Requirements for Transactions with Affiliates	
	Accounting	Reporting
New Hampshire	Depends upon specific transactions.	Must submit contracts affecting New
New Jersey	Transaction must be reasonable and	Description required in annual report
New Mexico	Yes.	Yes.
New York	Companies must keep accounts so as to	Commission has authority under
North Carolina	Type and dollar amount of transaction	Regulated companies annually report
Ohio	Commission has authority but no	Part of annual report. Commission
Oklahoma	As required by uniform system of	Same.
Oregon	Special accounting requirements to	Special reporting format prescribed by
Pennsylvania	PUC has authority to approve	Requires Commission Order within 30
Rhode Island	Yes.	Yes.
South Carolina	All necessary steps to protect	Reports/other transactions
Tennessee	Yes.	Yes.
Texas	Reviewed in rate cases. Must be	Not available.
Utah	No special provisions in law; PSC has	Same.
Vermont	Not available.	Not available.
Virginia	Yes.	Yes.
Washington	Keep records of cost of affiliate services	Utility must file annual report
West Virginia	Prior consent required-reviewed for	As required by annual report.
Wisconsin	Highly extensive.	Yes. Case by case basis.
Wyoming	Complete separation of operations on	Case by case; part of annual reports.

Source: National Association of Regulatory Utility Commissioners, *NARUC Compilation of Utility Regulatory Policy 1993-1994* (Washington, DC: The National Association of Regulatory Utility Commissioners, 1995), table 62.

APPENDIX E

SELECTED STATE STATUTES AND COMMISSION RULES REGARDING PRIVATIZATION

CALIFORNIA

ARTICLE 10
THE LOCAL GOVERNMENT PRIVATIZATION ACT OF 1985

§ 54251. Agreements with privatizers

(a) A local agency may, pursuant to this article, grant, or enter into one or more exclusive or nonexclusive franchise, license, or service agreements with a privatizer for the design, ownership, financing, construction, maintenance, or operation of a privatization project.

(b) A local agency may enact any measures necessary and convenient to carry out this article.

(c) Notwithstanding Section 25210.77b, within a county service area, a county may fix a charge in excess of ten dollars ($10) for each acre of land, or ten dollars ($10) for each parcel of land of less than one acre for sewer standby charges subject to a privatization project pursuant to this article.

(Added by Stats.1985, c. 1430, § 4.)

§ 54252. Application for determination of status of project as public utility

(a) In accordance with Section 10013 of the Public Utilities Code, prior to signing * * * a proposed franchise, license, or service agreement with a local agency, a privatizer shall apply to the commission for a determination that the proposed privatization project is not a public utility within the meaning of Section 216 of the Public Utilities Code and is therefore exempt from commission regulation. The application shall include such information as the commission requires to make this determination, as well as any information needed to comply with subdivisions (d) and (e) of Section 10013 of the Public Utilities Code.

(b) A local agency may contract with the commission for any technical assistance deemed necessary to comply with Section 10013 of the Public Utilities Code and shall reimburse the commission for estimated reasonable costs. The local agency may charge the privatizer a fee to pay these costs.

(Added by Stats.1985, c. 1430, § 4. Amended by Stats.1992, c. 669 (A.B.3605, § 1.)

§ 54253. Agreements with privatizers; prerequisites

No proposed franchise, license, or service agreement for a privatization project pursuant to this article shall be entered into between a local agency and a privatizer unless and until all of the following occur:

(a) The local agency has selected the privatizer through a competitive procedure which is not based solely on the price offered by the privatizer.

(b) The local agency has evaluated the project's design, capacity, financial feasibility, and cost compared with other conventional financing methods, as well as other alternatives to the project and found that the project's costs will be equal to, or lower than, conventional financing.

(c) The local agency has conducted a noticed public hearing on the proposed franchise, license, or service agreement. The notice for the public hearing shall be published pursuant to Section 6062 and shall contain, at a minimum, all of the following:

(1) A statement describing the proposed privatization project, including its cost and service area.

(2) A statement of the time and place of the public hearing to be held for the purpose of hearing public comments on the proposed franchise, license, or service agreement for the privatization project.

(3) A statement of where and when the proposed franchise, license, or service agreement will be available for public inspection prior to the hearing.

(d) The local agency has adopted the contingent franchise, license, or service agreement for a privatization project by ordinance which states that it is subject to the provisions for referendum applicable to a local agency and to approval by the commission pursuant to Section 10013 of the Public Utilities Code.

(e) The local agency retains ownership over any treated effluent from the privatization project that is not consigned to an outfall sewer but is made available for commercial or agricultural use.

(f) The agreement contains provisions stating it shall be subject to the state's prevailing wage laws.

(g) The local agency has met and conferred with all affected employee organizations under whose jurisdiction the work or service proposed under the franchise, license, or service agreement would normally be performed. The local agency shall make all reasonable efforts to avoid reducing its existing work force or demoting its existing employees as a result of entering into the franchise, license, or service agreement. If any adverse impacts which are raised by either party during the meet and confer process are necessary, the local agency shall adopt be resolution detailed explaining the necessity for the adverse impacts.

(h) The local agency finds that the privatizer has the expertise to ensure the continued operation and maintenance of the privatization project. This expertise shall include, but not be limited to, an adequate number of personnel certified in wastewater treatment plant operations pursuant to Chapter 9 (commencing with Section 13625) of Division 7 of the Water Code.

(i) The agreement contains provisions to ensure that the privatization project is operated to meet any applicable federal or state water quality standards or other laws. (Added by Stats.1985, c. 1430, § 4. Amended by Stats.1992, c. 669 (A.B.3605), § 2.)

§ 10013. Privatizers; applications for exclusion from regulation under § 216.

(a) Subsequent to signing a contingent franchise, license, or service agreement with a local agency, a privatizer shall apply to the commission for a determination that the proposed privatization project is not a public utility within the meaning of Section 216 and is therefore exempt from commission regulation. When a privatizer files an application with the commission, the privatizer shall include the information the commission requires to make a determination in accordance with subdivisions (b), (c), and (e).

(b) (1) Not later than 60 calendar days after the privatizer submits its application to the commission, the commission shall determine in writing whether the application is complete and shall immediately transmit the determination to the privatizer.

(2) If the application is determined not to be complete, the commission shall specify in writing those parts of the application which are incomplete and shall indicate the manner in which it can be made complete, including a list and thorough description of the specific information needed to complete the application. The applicant shall submit materials to the commission in response to the list and description. Upon resubmittal of the application, a new 60-calendar-day period shall begin, during which the commission shall determine the completeness of the application.

(3) If the application is deemed complete, the commission may determine not later than 90 calendar days after the application is deemed complete that the privatization project is not a public utility within the meaning of Section 216 and is therefore exempt from commission regulation, if the commission finds that the application clearly complies with the criteria in subdivisions (d) and (e). If the commission does not make this finding, then it shall proceed under the schedule established in subdivision (c).

(4) If the commission fails to make a written determination as to the completeness of the application within 60 calendar days after receipt of the original or resubmitted application, the application shall be deemed complete for purposes of this section.

(c) Within 180 calendar days after the application is deemed complete, the commission shall determine whether the privatization project is a public utility within the meaning of Section 216 using the criteria in subdivisions (d) and (e). The commission may hold a hearing on the matter if the commission has either exempted the project or the 180-calendar-day period has expired, whichever comes first. Nothing in this section precludes a privatizer and the commission from mutually agreeing to a further extension of any time limit provided in this section.

(d) The commission may determine that a privatization project is not a public utility within the meaning of Section 216, and is therefore exempt from commission regulation if it finds that the franchise, license, or service agreement both demonstrates that the local agency retains sufficient jurisdiction to protect the public interest and adequately addresses all aspects of the provision of service which would otherwise be subject to commission regulation. In making its determination, the commission shall determine whether the local agency has complied with Section 54253 of the Government Code. The decision of the commission shall be final and conclusive in the absence of any subsequent changes.

(e) In making a determination pursuant to subdivision (c), the commission shall review the franchise, license, or service agreement to ensure that the agreement grants the local agency, at a minimum, all of the following:

(1) Exclusive authority to establish all rates and rate changes charged to the public.

(2) Approval over any proposal of the privatizer to provide new, additional, or alternative service to any other public or private entity or to change the service fee paid to the privatizer by the local agency.

(3) Approval over any changes in ownership of the party or parties subject to the franchise, license, or service agreement.

(5) Authority to impose fines and penalties for noncompliance with any provision of the executed franchise, license, or service agreement, or for failure to provide the service within the time period agreed to in the franchise, license, or service agreement.

(6) Authority to ensure that the facility is adequately maintained.

(7) Adequate opportunity to monitor compliance with the agreement and to ensure the project will be operated to meet any applicable federal or state water quality standards or other applicable laws.

(8) Adequate opportunity to amend the agreement in the event of unforeseen circumstances or contingencies, such as flood, earthquake, fire, or other natural disasters or federal tax law changes.

(f) The commission may adopt whatever procedures it deems necessary to carry out the provisions of subdivision (a), (b), (c), (d), and (e). The commission shall adopt regulations for reviewing any proposed changes to a contingent franchise, license, or service agreement to determine if the proposed changes could render the project a public utility within the meaning of Section 216. The commission shall charge each privatizer submitting an application pursuant to this section a fee which will be sufficient to defray the costs incurred in processing the application and rendering a decision upon it.

(g) As used in this section, "privatization project" means any wastewater or sewerage project that is owned and operated by a privatizer pursuant to a franchise, license, or service agreement with a local agency, or any agency of that local agency, pursuant to which services are supplied for the benefit of the local agency, its residents, or both, or any agency of the state. "Project" includes, but is not limited to, financing, designing, constructing, repairing, replacing, maintaining, and operating collector systems, pumping stations, treatment plants, and lateral interceptors, and outfall sewers. "Local agency" means any city, county, city and county, special district, or county service area. "Privatizer" means any corporation, partnership, or natural person, excluding municipal corporations, which owns and operates a wastewater or sewerage project pursuant to a franchise, license, or service agreement with a local agency. "Privatization project," as used in this section, includes the Santa Ana Watershed Project Authority's Arlington Basin Groundwater Desalter Project, which will treat groundwater contaminated by wastewater.

(Added by Stats.1985, c. 1430, § 2. Amended by Stats.1992, c. 669 (A.B.3605), § 3.)

KENTUCKY

WATER PRIVATIZATION PROJECTS

107.700. Legislative policy. --- The General Assembly declares that the policy of this Commonwealth is to assure its citizens adequate public services, at reasonable cost, and that such services are essential to the maintenance and general welfare of the citizens of this Commonwealth and industrial base. However, the cost of constructing, owning, and operating capital facilities to meet the demand for those public services is becoming increasingly burdensome to cities, counties, urban-counties, and improvement districts and it is desirable that innovative financing mechanisms be made available to assist the communities of this Commonwealth in developing drinking water, water, and wastewater projects at reasonable cost. Private sector ownership and operation of capital facilities providing public services can result in cost savings to communities contracting for those public services. It is therefore in the best public interest of the Commonwealth and its citizens that cities, counties, urban-counties and improvement districts be authorized to cause such services to be provided by private enterprise, and to contract with private owners or private owner/operators for providing the service to the public. (Enact. Acts 1986, ch. 456, § 1, effective July 15, 1986.)

107.720. Privatization contracts --- Notice --- Hearing --- Competitive bidding --- Assignment of contract. --- (1) Any political subdivision may enter into a privatization contract with a private owner or private owner/operator to accomplish the transfer of any political subdivision owned drinking water, water or wastewater project or the designing, construction, operation, maintenance, financing of cost or any combination thereof, of a drinking water, water or wastewater project pursuant to the provisions of KRS 107.720 to 107.760.

(2) Prior to a political subdivision entering into a privatization contract pertaining to its drinking water, water or wastewater project, or any portion thereof, the governing authority shall cause notice of its intention to adopt an ordinance to accomplish such privatization to be published pursuant to KRS Chapter 424. The notice shall set forth a brief summary of the privatization contract provisions, and set a time and place for a public hearing to be conducted by the executive authority of the political subdivision. The notice shall be published each week for a period of (2) weeks, the first publication being not less than thirty (30) days prior to the adoption of the ordinance approving the execution of the privatization contract. The hearing may be held in conjunction with any hearing on the question of issuing bonds to finance the cost of the privatization projects, or on the question of adoption of the service agreement, or any other question. A copy of the proposed privatization contract shall be filed as a public record with the clerk of the political subdivision not less than thirty (30) days prior to the adoption of the aforesaid ordinance.

(3) Notwithstanding whether the political subdivision has adopted the provisions of KRS 45A.345 to 45A.460, the privatization contract, the service agreement or any other purchase by the local government in connection, with a privatization contract under KRS 107.720 to

107.760 may be made or awarded by competitive bidding, competitive negotiation, or negotiation.

(4) The privatization contract or the service agreement may be assigned by either party to secure the performance of any obligation in connection with the financing of construction or operation of a drinking water, water or wastewater project. (Enact. Acts 1986, ch. 456, § 3, effective July 15, 1986.,)

107.730. Service agreements --- Notice --- Hearing. --- (1) In connection with a privatization contract, a political subdivision, if authorized by its governing body, may enter into one (1) or more service agreements with a private owner or private owner/operator pursuant to which the private owner or private owner/ operator will provide one (1) or more service to or for the benefit of such political subdivisions. The service agreement shall provide for the purchase by the political subdivision of all or any part of the capacity, capability, or output of the facilities used to provide the applicable service, and the charges or rates for such services, and shall contain such other terms and conditions as the political subdivision and the private owner or private owner/operator may agree including, without limitation, a covenant by the political subdivision to maintain rates sufficient to pay debt service incurred in connection with the financing of construction of a drinking water, water or wastewater project. The service agreement, the privatization contract, the charges and rates for services, and private owner or private owner/ operator shall not be subject to the jurisdiction of the Kentucky Public Service Commission or any successor regulatory agency unless and only to the extent that the private owner or private owner/operator sells any part of the services or output of the facility to a person or entity other than the political subdivision which is a party to the service agreement.

(2) Prior to the execution of a service agreement, the governing body of the political subdivision shall cause notice of its intention to adopt an ordinance to accomplish such service agreement to be published pursuant to KRS Chapter 424. The notice shall set forth a brief summary of the service agreement provisions, and set a time and place for a public hearing to be conducted by the executive authority of the local government. The notice shall be published each week for a period of two (2) weeks, the first publication being not less than thirty (30) days prior to the adoption of the ordinance approving the execution of the service agreement. The hearing may be held in conjunction with any hearing on the question of issuing bonds to finance the cost of the privatization project, or on the question of adoption of the service agreement, or any other question. A copy of the proposed service agreement shall be filed as a public record with the clerk of the political subdivision not less than thirty (30) days prior to its adoption. (Enact. Acts 1986, ch. 456, § 4, effective July 15, 1986.)

107.740. Recall of ordinance creating privatization project. --- (1) Any ordinance creating a privatization project pursuant to KRS 107.720 to 107.760, which provides for the transfer of ownership of an existing publicly-owned facility to a private owner or private owner/operator, shall be subject to being recalled pursuant to the public question procedure set out in KRS 83A.120, except that such recall procedure shall not apply to an expansion of an

existing facility. Upon the receipt of a petition requesting recall, the ordinances shall be suspended from going into effect pending the result of the election. If a majority of the votes cast upon the question is in the negative the ordinance shall not go into effect. If a majority of the votes cast upon the question is in the affirmative, the ordinance shall go into effect in accordance with its terms. (Enact. Acts. 1986, ch. 456, § 5, effective July 15, 1986.)

MISSOURI

CHAPTER 71. PROVISIONS RELATIVE TO ALL CITIES AND TOWNS PUBLIC UTILITIES

71.525 R.S. Mo. (1994). Condemnation of property of public utility or rural electric cooperative, restrictions, conditions -- limitation.

1. Except as provided in subsection 2 of this section, no city, town or village may condemn the property of a public utility, as defined in section 386.020, RSMo, or the property of a rural electric cooperative, as provided in Chapter 394, RSMo, if such property is used or useful in providing utility services and the city, town, or village seeking to condemn such property, directly or indirectly, will use or proposes to use the property for the same purpose, or a purpose substantially similar to the purpose that the property is being used by the public utility or rural electric cooperative.

2. A city, town or village may only condemn the property of a public utility or the property of a rural electric cooperative, even if the property is used or useful in providing utility services by such utility or cooperative, if:

(1) The condemnation is necessary for the public purpose of acquiring a nonexclusive easement or right-of-way across the property of such utility or cooperative and only if the acquisition will not materially impair or interfere with the current use of such property by the utility or cooperative and will not prevent or materially impair the utility or cooperative from any future expansion of its facilities on such property; or

(2) The property is solely and exclusively devoted to the provision of street lighting or traffic signal service by such utility in a city having a population of at least three hundred fifty thousand inhabitants located wholly or partially within a county of the first classification with a charter form of government; or

(3) The property is owned by a water or sewer corporation, as defined in section 386.020, RSMo, with less than five hundred hook-ups.

3. The provisions of this section shall apply to all cities, towns, and villages in this state, incorporated or unincorporated and no matter whether any statutory classification, special charter or constitutional charter or any other provision of law appears to convey the power of condemnation of such property by implication.

4. If a city, town or village seeks to condemn the property of a public utility or rural electric cooperative, and the conditions in subsection 1 of this section do not apply, this section does not limit the condemnation powers otherwise possessed by such city, town or village.

NEW JERSEY[1]

CHAPTER 26
WATER SUPPLY PRIVATIZATION

58:26-2. Legislative findings and determinations

The Legislature finds that the construction, rehabilitation, operation, and maintenance of modern and efficient water filtration facilities are essential to protecting and improving the State's water quality; that many of the water filtration systems in New Jersey must be replaced or upgraded if an inexorable decline in water quality is to be avoided during the coming decades; that the citizens of this State, in recognition of the crucial role the construction of new and the upgrading of existing water supply facilities play in maintaining and augmenting the natural water resources of the State, and with an understanding that the cost of financing and constructing these systems is beyond the limited financial resource capabilities of local governments and authorities and must be borne by the bonding authority of the State and repaid, in part, through a system of water supply user charges, approved the enactment of the "Water Supply Bond Act of 1981" (P.L.1981, c. 261); that the water filtration needs of the State are so great that the limited funds allocated for this purpose from the "Water Supply Fund" established by that 1981 bond act are insufficient; that given this inadequate present level of State funding, alternative methods of financing the construction of new or the rehabilitation of antiquated or inadequate existing water filtration systems must be developed and encouraged; that one alternative method of financing these necessary facilities available to local government units consists of contracting with private-sector firms for the financing, construction and operation of these systems; and that for some local government units, contracting for the provision of water supply services, if done in such a way as to protect the interests of water users and to conform with environmentally sound water quality standards, will constitute an appropriate method of securing these needed water filtration systems.

The Legislature therefore determines that it is in the public interest to establish a comprehensive procedure designed to authorize local government units to contract with private firms for the construction of water filtration systems and the provision of water supply services.

L.1985, c. 37, § 2, eff. Feb. 1, 1985.

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[1] This legislation has been revised.

58:26-4. Power of contracting unit to enter into contract; duration of contract

The provisions of any other law, or rules and regulations adopted pursuant thereto to the contrary notwithstanding, any contracting unit may enter into a contract for a period not to exceed 40 years, with a vendor for the financing, designing, construction, operation, or maintenance, or any combination thereof, of a water supply facility, including a water filtration system, or for water supply services, pursuant to the provisions of this act. L.1985, c. 37, § 4, eff. Feb. 1, 1985.

58:26-5. Notice of intent to enter into contract

A contracting unit which intends to enter into a contract with a private vendor for the provision of water supply services pursuant to the provisions of this act shall notify, at least 60 days prior to issuing a request for qualifications from interested vendors pursuant to section 6 of this act,[1] the division, the department, the Board of Public Utilities, and the Department of the Public Advocate of its intention, and shall publish notice of its intention in at least one newspaper of general circulation in the jurisdiction which would be served under the terms of the proposed contract.

L.1985, c. 37, § 5, eff. Feb. 1, 1985.

[1] Section 58:26-6.

CHAPTER 27
WASTEWATER TREATMENT PRIVATIZATION

58:27-1. Short title

This act shall be known and may be cited as the "New Jersey Wastewater Treatment Privatization Act."

58:27-2. Legislative findings

The Legislature finds and declares that protecting the ground and surface water of the State from pollution is vital to the health and general welfare of the citizens of New Jersey; that the construction, rehabilitation, operation, and maintenance of modern and efficient sewer systems and wastewater treatment plants are essential to protecting and improving the State's water quality; that in addition to protecting and improving water quality, adequate wastewater

treatment systems are essential to economic growth and development; that many of the wastewater treatment systems in New Jersey must be replaced or upgraded if an inexorable decline in water quality is to be avoided during the coming decades; that the United States Congress, in recognition of the crucial role wastewater treatment systems and plants play in maintaining and improving water quality, and with an understanding that the cost of financing and constructing these systems must be borne by local governments and authorities with limited sources of revenues, established in the "Clean Water Act" a program to provide local governments with grants for constructing these systems; that during the last several years the amount of federal grant money available to states and local governments for assistance in constructing and improving wastewater treatment systems has sharply diminished; that the current level of federal grant funding is inadequate to meet the cost of upgrading the State's wastewater treatment capacity to comply with State water quality standards; that given this inadequate present level of federal grant funding, alternative methods of financing the construction, operation, and improvement of wastewater treatment systems must be developed and encouraged; that one alternative method of financing necessary wastewater treatment systems available to local government units consists of contracting with private-sector firms for the financing, construction and operation of these systems; and that for some local government units, contracting for the provision of wastewater treatment services, if done in such a way as to protect the interests of consumers and to conform with environmental standards, will constitute an appropriate method of securing these needed wastewater treatment systems.

The legislature therefore determines that it is in the public interest to establish a comprehensive procedure designed to authorize local government units to contract with private firms for the provision of wastewater treatment services.
L.1985, c. 72, § 2, eff. March 11, 1985.

TEXAS

COMMISSION RULES
SUBCHAPTER N: PRIVATIZATION CONTRACTS

§13.511. Definitions

In this subchapter:

(1)) "Eligible city" means any municipality whose waterworks and sewer system is operated by a board of utility trustees pursuant to provisions of a home-rule charter.

(2) "Privatization contract" means any contract, agreement, or letter of intent or group of the same by which any eligible city contracts with a service provider to provide for the financing, acquisition, improvement, or construction of sewage treatment and disposal services to the eligible city or any contract pursuant to which such service provider agrees to operate and maintain, or have its subcontractor operate and maintain all or any part of the eligible city's sewage treatment and disposal facilities.

(3) "Service provider" means any persons or group of persons who is a party to a privatization contract which thereby contracts to provide sewage treatment and disposal services to an eligible city.

§13.512. Authority to Enter Into Privatization Contracts

Any city is authorized to enter into privatization contracts if such action is recommended by the board of utility trustees and authorized by the governing body of the eligible city pursuant to an ordinance. Any privatization contract entered into prior to the effective date of this Act is validated, ratified, and approved. Each eligible city shall file a copy of its privatization contract with the commission, for information purposes only, within 60 days of execution or the effective data of this Act, whichever is later.

§13.513. Election by Eligible City of Exempt Service Provider From Commission Jurisdiction

A service provider shall not constitute a "water and sewer utility," a "public utility," a "utility," or a "retail public utility" within the meaning of Chapter 13 as a result of entering into or performing a privatization contract, if the governing body of the eligible city shall so elect by ordinance and provide notice thereof in writing to the commission; provided, however, this provision shall not affect the application of Chapter 13 to an eligible city itself. Notwithstanding anything contained in this section, any service provider who seeks to extend or render sewer service to any person or municipality other than, or in addition to, an eligible

city may be a "public utility" for the purposes of Chapter 13 with respect to such other person or municipality.

§13.514. Term and Provisions of a Privatization Contract

A privatization contract may be for a term and contain provisions that the governing body of an eligible city determines are in the best interests of the eligible city, including provisions relating to allocation of liabilities, indemnification, and purchase of all or a portion of the facilities.

§13.515. Payments Under a Privatization Contract

Payments by an eligible city under a privatization contract shall, if so provided, constitute an operating expense of the eligible city's sanitary sewer system or combined waterworks and sanitary sewer system, except that any payment for purchase of the facilities is payable from a pledge and lien on the net revenues of the eligible city's sanitary sewer system or combined waterworks and sanitary sewer system.

Source: Texas Water Commission, *Permanent Rules-Water Rates, Chapter 291* (Effective July 30, 1990).

CHAPTER 10D
PRIVATIZATION PROJECTS

73-10d-1.Public policy.

The Legislature declares that the policy of this state is to assure its citizens adequate public services, including drinking water, water, and wastewater collection, treatment and disposal at reasonable costs. Adequate public services are essential to the maintenance and general welfare of the citizens of this state and to the continued expansion of the state's economy, job market, and industrial base.

The cost of constructing, owning, and operating capital facilities to meet the anticipated growth in the demand for those public services is becoming increasingly burdensome to political subdivisions, particularly to the smaller communities of the state.

It is desirable that innovative financing mechanisms be made available to assist the communities of this state to develop capital facilities to provide adequate public services at reasonable cost. Private sector ownership and operation of capital facilities providing public services together with industrial development revenue bond financing of those facilities, can result in cost savings to communities contracting for those public services.

It is in the best public interest of the state and its citizens that political subdivisions be authorized to provide public services by access to facilities owned and operated by private persons and financed through the issuance of industrial development revenue bonds, and to contract with private persons for the long-term provision of the services of those facilities.

73-10d-4.Notice of intention to enter privatization project — Petition for election — Election procedures — Powers of political subdivision — Public bidding laws not to apply.

(1) The governing authority of any political subdivision considering entering into a privatization project agreement shall issue a notice of intention setting forth a brief summary of the agreement provisions and the time within which and place at which petitions may be filed requesting the calling of an election in the political subdivision to determine whether the agreement should be approved. The notice of intention shall specify the form of the petitions. If, within 30 days after the publication of the notice of intention, petitions are filed with the clerk, recorder, or similar officer of the political subdivision, signed by at least 5% of the qualified electors of the political subdivision (as certified by the county clerks of the respective counties within which the political subdivision is located) requesting an election be held to authorize the agreement, then the governing authority shall proceed to call and hold an election. If an adequate petition is not filed within 30 days, the governing authority may adopt a resolution so finding and may proceed to enter into the agreement.

(2) If, under Subsection (1), the governing authority of a political subdivision is required to call an election to authorize an agreement, the governing authority shall adopt a resolution directing that an election be held in the political subdivision for the purpose of determining whether the political subdivision may enter into the agreement. The resolution calling the election shall be adopted, notice of the election shall be given, voting precincts shall be established, the election shall be held, voters qualifications shall be determined, and the results shall be canvassed in the manner, and subject to the conditions provided for in Chapter 14, Title 11, the Utah Municipal Bond Act.

(3) A political subdivision may, upon approval of an agreement as provided by Subsection (1) and (2) and subject to the powers and rules of the supervising agency:

(a)supervise and regulated the construction, maintenance, ownership, and operation of all privatization projects within its jurisdiction or in which it has a contractual interest;

(b)contract, by entry into agreements with private owner/operators for the provision within its jurisdiction of the services of privatization projects;

(c)levy and collect taxes, as otherwise provided by law, and impose and collect assessments, fees, or charges for services provided by privatization projects, as appropriate, and, subject to any limitation imposed by the constitution, pledge, assign, or otherwise convey as security for the payment of its obligations under any agreements any revenues and receipts derived from any assessments, fees, or charges for services provided by privatization projects;

(d)require the private owner/operator to obtain any and all licenses as appropriate under federal, state, and local law and impose other requirements which are necessary or desirable to discharge the responsibility of the political subdivision to supervise and regulate the construction, maintenance, ownership, and operation of any privatization project;

(e)control the right to contract, maintain, own, and operate any privatization project and the services provided in connection with that project within its jurisdiction.

(f)purchase, lease, or otherwise acquire all or any part of a privatization project;

(g)with respect to the services of any privatization project, control the right to establish or regulate the rates paid by the users of the services within the jurisdiction of the political subdivision;

(h)agree that the sole and exclusive right to provide the services within its jurisdiction related to privatization projects be assumed by any private owner/operator;

(i) contract for the lease or purchase of land, facilities, equipment, and vehicles for the operation of privatization projects;

(j)lease, sell, or otherwise convey, as permitted by state and local law, but without any requirement of competitive public bidding, land, facilities, equipment, and vehicles, previously used in connection with privatization projects, to private owner/operators; and

(k)establish policies for the operation of any privatization project within its jurisdiction or with respect to which it has a contractual interest, including hours of operation, the character and kinds of services, and other rules necessary for the safety of operating personnel.

(4) Any political subdivision may enter into agreements with respect to privatization projects. Agreements may contain provisions relating to, without limitation, any matter provided for in this section or consistent with the purposes of this chapter.

(5) Any agreement entered into between a political subdivision and a private owner/operator for the provision of the services of a privatization project is considered an exercise of that political subdivision's business or proprietary power binding upon its succeeding governing authorities. Any agreement made by a political subdivision with a private owner/operator for payment for services provided or to be provided may not be construed to be an indebtedness or a lending of credit of the political subdivision within the meaning of any constitutional or statutory restriction.

(6) The provision of the various laws of the state and the rules or ordinances of a political subdivision which would otherwise require public bidding in respect to any matter provided for in this chapter shall have no application to that matter.

APPENDIX F

ANNOTATED BIBLIOGRAPHY ON PRIVATIZATION

Mariusz Mark Dobek. *The Political Logic Of Privatization: Lessons From Great Britain and Poland.* Westport, CT: Praeger Publishers, 1993.

The author explores a political framework (the "logic of privatization") for analyzing the concept of privatization and the privatization movement. The explanatory power of the framework is tested through case studies of Great Britain and Poland. The author argues that politics is very much a part of the privatization phenomenon. Based on the case studies, four broad issues are identified: (1) the tension between the political and economic aspects of privatization and possible outcomes; (2) the political and economic goals that privatization seeks to achieve; (3) the political logic that any privatization program should follow to achieve successful implementation; and (4) the ramifications of various privatization mechanisms.

Dobek applies the collective action and interest-group politics literature in his analysis of the natural tensions between the economic and political goals of privatization. The following basic assumptions guide the framework: (1) economic goals benefit the public; (2) political goals benefit the ruling party; (3) politicians are motivated to acquire and retain office; and (4) as a result of a politician's motivation, politics will always receive greater attention in the privatization debate. The framework that follows addresses the major actors involved in privatization, timing, and financial expertise.

The author argues that the British privatization movement was rationalized in economic terms. The Thatcher government argued that privatization would intensify competition, promote economic efficiency, enhance service quality and reliability, remedy ongoing management and operating problems of the nationalized industries, and secure additional revenues. According to the author's analysis, however, the movement abandoned economic goals for political ones. A key political goal was to undermine the labor unions and the labour party's power base by increasing the number of shareholders and property owners. The author provides examples of special efforts to appease supporters, timing and sequencing to take advantage of political gains, and the use of financial experts to achieve the optimal financial situation with the electorate for political gain.

In Poland, the circumstances leading to privatization were quite different from the British experience. The Poland experience was marked by instability in the country's economic markets, financial base, and political apparatus. These forms of instability, coupled with the nation's communist political ideology, complicated the transition to a privatized market. The Polish government hopes to create political stability through privatization by providing opportunities and incentives through the broad distribution of property rights. Although it is generally assumed that economic goals dominated the Polish movement, the author argues that economic and political goals converged. Eventually, political goals prevailed and were instrumental in the privatization movement.

The author also provides strategies for the successful implementation of privatization. A major challenge is to overcome the free rider problem by amassing several divergent groups

into a unified movement. The author recommends the use of a mixture of three incentives: material, purposive, and solidary benefits. Another important strategy is to identify the key players in the opposition movement. The author concludes that a mixture of benefits to address the concerns of key players is the answer to the free rider problem.

John D. Donahue. *The Privatization Decision: Public Ends, Private Means.* New York, New York: Basic Books, Incorporated, 1989.

This author emphasizes that the positive productivity potential of private firms is possible only under certain circumstances. As others also assert, the form of ownership matters (that is, public v. private), but the presence of competition usually matters more. The author develops and illustrates a set of principles to guide the allocation of publicly financed services between government and nongovernmental organizations. Both sectors can be criticized for various inefficiencies. By deemphasizing ownership form, the focus of analysis can be shifted to the degree of competition for the production or delivery of services and goods by the public or private sectors. The author also asserts that different tasks call for different market orderings. Efficiency is not the sole consideration in the public versus private debate. Accountability also is an important factor.

The American privatization experience is characterized by contracting. A taxonomy to characterize the privatization decision is presented. The two dimensions of the matrix are collective versus individual financing of services, and public versus private production or delivery of services. The decision to privatize can be guided by specific criteria: the degree to which a task can be specified in advance; the ability to evaluate performance after the fact; and the ability to replace or penalize nonperforming contractors. Further, if government decisionmakers care more about the ends rather than the means of achieving policy goals, the case for using profit seekers rather than civil servants can be stronger.

The author cautions that some privatization advocates assume that efficient companies in competitive markets will excel in public undertakings as well. Yet the underlying logic of this assumption and is not always challenged. Public tasks often are more difficult to perform, and the private sector may not be as well suited to them as privatization proponents suggest. However, privatization should not be rejected as an option even though some enthusiasts favor it for the wrong reasons.

Lawrence K. Finley, ed. *Public Sector Privatization: Alternative Approaches to Service Delivery.* New York: Quorum Books, 1989.

This three part text is a collection of essays on the issues, experiences, constraints, and opportunities of the privatization movement in general and alternative methods of service

delivery in particular. The author identifies several issues for decisionmakers to consider: the need to develop a community vision of what services are wanted available resources; the quantity and quality of services desired; the method of payment for services; and who will provide the services to the community.

Part I considers alternative service delivery, beginning with an essay on the complex, dynamic, and uncertain environment in which privatization occurs. The concepts of service delivery and service production are explored. One author emphasizes the use of cost savings in evaluating alternative service delivery mechanisms. Decisionmakers are advised to: determine the most cost-effective alternative; evaluate service-quality issues; assess the impact of the proposed mechanism on other services; evaluate the risk of service disruptions; continually assess the provider's ability to respond to citizens' needs and expectations; plan for implementation; and adopt formal or informal methods of evaluating service delivery.

Also included are case studies of alternative service delivery in Rochester, New York and Florence, Kentucky. Rochester contracted the following areas for city delivery of services: entrepreneurial activities (such as municipal parking and parking fines, sports arena management, and convention center operation); maintenance of neighborhood open spaces (such as parks, street malls, and vacant lots); human services and specialized services (such as technical, professional and trade skill services); operational support (such as recreation, grave digging, vehicle repair, and janitorial services; and volunteer programs to supplement the city's police, fire, and recreation services.

In Florence, both public and private providers are used. Public providers were granted contracts to deliver fire, planning and zoning enforcement, parks and recreation services, animal control and shelter, public safety, communications, and data processing services. The city contracted with private providers in for solid waste collection, janitorial services, uniform cleaning, street constructing, street resurfacing, and vehicle towing. Although each city experienced certain difficulties, both communities acknowledged the benefits of a well designed privatization program.

Part II describes the advantages and disadvantages of alternative service delivery for several industries, including metropolitan transportation services, fire protection services, and health care. The key criteria identified for selecting a private provider are: expertise, experience, and committed resources. Key implementation issues include the need to control costs, the tension over institutional change, the interests of the private sector, the role of privatization in industry restructuring, and the formation of public-private partnerships to solve public problems.

The final section of the book addresses legal constraints, competitive opportunities, and the European experience with privatization. The legal constraints range from procedural to securities concerns. The implications of securities and tax law reforms on financial viability also are addressed.

Harry P. Hatry. *A Review Of Private Approaches For Delivery Of Public Services.* Washington, D.C.: The Urban Institute Press, 1983.

The author identifies and evaluates various types of privatization mechanisms available for producing and delivering public services more efficiently and equitably. The individual or combined approaches are expected to produce one of the following results: (1) provide a given service at a lower cost; (2) reduce the demand for services, thereby lowering governmental costs; (3) reduce governmental service without reducing demand; (4) raise more revenues for governmental services; or (5) increase the amount, quality, and effectiveness of the governmental service without increasing costs.

The author also identifies the leading rationales for privatization. First, governments have monopoly power and lack incentives to reduce costs and improve performance. This argument finds theoretical support in the public choice literature. Second, government operation of industry involves too much bureaucratic red tape and politics. This argument is supported by theories emphasizing governmental inefficiency and political influence costs. Third, less government is better government.

Hatry evaluates the various approaches to privatization through a framework involving eight key elements: (1) the cost of the government service; (2) the financial price to citizens; (3) the degree of choices available to service clients; (4) the quality and effectiveness of the service; (5) potential distributional effects; (6) the staying power of the provider and the potential for service disruption; (7) feasibility and ease of implementation; and (8) the overall impact of privatization.

John Kay, Colin Mayer, and David Thompson, eds. *Privatization and Regulation: The United Kingdom Experience.* New York: Oxford University Press, 1986.

This text begins with a discussion of privatization policies and issues based on the British privatization effort. The first essay defines privatization and addresses three key issues: (1) whether a particular nationalized industry is a serious candidate for privatization; (2) how the industry should be structured and the regulatory environment designed; and (3) what the priorities should be for privatization among the industries.

Applying a cost-benefit analysis, the author concludes that: (1) decisionmakers must design privatization approaches to maximize net consumer benefits (that is, lower prices and improve the quality of service); (2) removing artificial barriers to market entry will promote competition; (3) stricter competition policy is preferable to rate-of-return regulation; (4) clear rules must address the criteria for providing inefficient services; (5) workers that become unemployed as a result of the transition must receive compensation; and (6) the state's priority must be toward the privatizing industries with the greatest likelihood of producing the greatest consumer benefits. Various essays in Part I of the book address the conservative

government's pro-privatization arguments: enhanced economic freedom, increased efficiency, increased control over public-sector finances, and reduced public-sector borrowing. Contributors challenge assumptions about efficiency and equity under public ownership, and strive to demonstrate the actual success of privatization in achieving promised goals.

Part II of the book compares the performance of public and private industries. The authors conclude that public industries are less efficient than private industries. One author found a diversity of results when comparing various industries in three countries (Canada, United States, and Switzerland). Part III focuses on the potential for increasing efficiency and performance through deregulation. Part IV outlines the use of privatization or deregulation to improve production and competition in five British industries: railways, electricity, airports, telecommunications, and gas.

Part V addresses the advantages and disadvantages of using franchising and contracting to improve efficiency and performance through competition, and Part VI addresses the impact of privatization on government finances and labor relations. The mixed effects of privatization on labor unions is discussed and the unions are credited with maintaining their influence under difficult circumstances during the height of British privatization efforts. The final section discusses the financial problems associated with privatization in Great Britain. According to one analysis, certain problems are a result of poor planning and politics. The author concludes with an analysis of the accounting procedures for assessing the success of asset sales, concluding that accounting benefits are illusory and deceiving. The underpricing of the assets results in the appearance of net cash receipts, which supports the notion of greater gains under privatization.

Sunita Kikeri, John Nellis, and Mary Shirley. *Privatization: The Lessons of Experience.* Washington, DC: The World Bank, 1992.

This book reviews the privatization experiences of developing countries who chose privatization in response to the burden of financing inefficient state-owned enterprises and the desire to produce positive economic gains.

Two key dimensions determine the impact of privatization on economic productivity and consumer welfare. One is whether market conditions are competitive or noncompetitive. The second dimension concerns the country's overall macroeconomic policies and regulatory capacity. In combination, these dimensions can lead to four different decisions. First, competitive markets and a high capacity to regulate are most favorable for the privatization decision. Second, with competitive markets and a low capacity to regulate, privatization should be coupled with close attention to changing competitive conditions. Third, when competition is lacking, privatization can be accomplished within an appropriate regulatory environment, Finally, when competition is lacking and regulatory capacity is low, the

government may need to attend to macroeconomic and regulatory policy issues before privatization is implemented.

To plan for the privatization process, the authors recommend that decisionmakers define the objectives of the privatization effort and determine what, how much, and how fast to privatize. In addition, restructuring may be a necessary prelude to the sale of assets. Finally, the use of a competitively bid price is the optimal method for pricing and valuation.

Several conclusions are drawn from the analysis. First, private ownership itself makes a difference. Some state-owned enterprises have been efficient and well managed for some periods, but government ownership seldom permits sustained good performance over more than a few years. Second, the high probability of efficient performance in private enterprise should be considered in choosing whether to invest public funds in state-owned enterprises or in health, education, and other social programs. Finally, the process of privatization, although not simple, can work and has worked. This finding is supported for a variety of enterprises in a variety of settings, including poor countries.

Brenden Martin. *In The Public Interest? Privatization and Public Sector Reform.* New Jersey: Zed Books Limited, 1993.

This author takes a global look at the privatization movement, focusing particular attention to the role of international agencies, such as the World Bank and the International Monetary Fund, in the privatization movement. A central issue in the analysis is the impact of privatization on the distribution of wealth and power. The author argues that unchecked market and state power threatens democracy, economic growth, and social stability.

After addressing many causes and impacts of the privatization movement, the author draws several key conclusions. First, a pragmatic and flexible approach is necessary to develop a balanced mix of public and private industry. The approach should address the range of industries and services that should be state-owned, the role of international agencies and private sector organizations in the delivery of public services, and the organization of this mix of private and public activity. Second, the state has a fundamental and primary economic and social role. Third, the effective performance of the state's economic and social role mandates the development and proper implementation of new approaches to the delivery and production of public services. Finally, the state must include the public and public employees in the design and assessment of alternatives to public production and delivery of services.

Several privatized industries are discussed. The analysis of water supply begins with a focus on the importance of producing and delivering clean sanitary water. On a worldwide basis, according to the author, waterborne diseases annually kill five million children under five years of age--and the rate is increasing. The main culprit is cholera. Governments have failed to make technological improvements to water supply plants because of fiscal

constraints. The rationale for privatization in areas including Great Britain and Argentina is based on the need for both fiscal relief and technological innovation.

The consequences of the privatization movement are assessed through case studies of the French, Mexico City, and British privatization efforts. The French movement resulted in one city's service connections dropping by 10 percent (from 57 to 47 percent) over a five-year period. The author cautions the reader that economic conditions also played a factor in this result. A program designed to address the needs of the poor was not adequately funded. As a result, a black market emerged with exorbitant prices to meet the demand for drinking water by the poor. The author cites other examples of black markets for water in Tanzania and Mauritania. Privatization in Mexico City resulted in higher costs to the utility and higher prices to the customer. Higher costs and prices, however, also coincide with the emerging interest in promoting water conservation through pricing mechanisms. In Great Britain, privatization resulted in increased prices to customers and increased profit margins and dividends to the utility company. Utility directors increased their own salaries by 100 percent during the year after privatization. Unlike the Mexico City experience, British conservationists considered privatization a nemesis. Since privatization, according to the author, twenty rivers dried up due to waste and over extraction by private companies.

V. V. Ramadanham, ed. *Constraints and Impacts Of Privatization.* London: Routledge, 1993.

This analysis of international privatization explores the experiences of several countries from the European, North American, South American, African, and Asian continents. Included are a discussion of the constraints and impacts of privatization, case studies by a number of different authors, and frameworks for understanding the impacts of privatization and the unique accounting aspects of privatization.

Privatization is constrained by a number of structural and content factors. The constraints on privatization can be analyzed along four key dimensions: macroeconomic, attitudinal, policy analysis, and impact uncertainty. Evaluating the impact of privatization on the economy involves five distinct issue areas: the identification of impacts, the measurement of impacts, the identification of nondivestiture impacts, and the nature of unique impacts in specific industries. Case studies are provided on the privatization experiences of several countries: Britain, East Germany, Hungary, Poland, Czechoslovakia, Central and Easter Europe, Guyana, Argentina, Brazil, Morocco, Tanzania, Bangladesh, and India. Each case study reports an analysis of constraints and impacts, with special attention to the political, economic, and social uniqueness of each country.

Three objectives for evaluating privatization are economic efficiency gains, fiscal gains, and distributional changes (such as the distribution of ownership). Two frameworks are proposed to assess the impact and effectiveness of privatization as a public policy. A

quasiexperimental (before and after) research design is proposed for identifying both micro-level and macro-level impacts. A quantitative model of bankruptcy risk also is used to assess the impact of privatization on overall financial viability and efficiency. The role of accounting in identifying the impact of privatization also is emphasized. A cost-benefit analysis before and after implementation is recommended. However, an accounting approach to analyzing privatization is constrained by the effects of externalities, data quality, and measurement issues.

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

In Part One, the author defines privatization as the act of reducing the role of government or increasing the role of the private sector, in an activity or in the ownership of assets. The analysis begins with a discussion of the pressures for privatization. Four political viewpoints on the privatization movement are presented: pragmatic, ideological, commercial, and populist. The growth of government is cited as a leading cause of the American privatization movement. Three major factors are offered to explain the growth of governments: greater demand for services by consumers, greater supply desires by producers (as emphasized in the public choice literature on bureaucratic behavior), and increased inefficiency.

Part Two examines the basic characteristics of public goods and services, the various alternatives for providing goods and services, and the advantages and disadvantages of each approach. Two key characteristics, exclusion and consumption, are used to define the public or private nature of a good or service. A classification of goods and services as public or private is too simple for today's economy. A more useful classification is: pure private, pure public, common pool, toll, and merit. The typology can be used to assess the appropriateness of providing or producing a good or service through the public or private sector. The growth in government, according to the author, began with the expanded provision of public and common pool goods resulting from: (1) the interest in shifting private goods to the public sector in order to shift the burden of payment to the collective; changes over time in the basic characteristics of goods because of changes in technology or conditions; and the realization that preserving increasingly scarce goods may require the involvement of the public sector.

According to Savas, "nothing requires the delivery of public goods by government." One chapter is dedicated to a discussion of the various alternative methods for providing public goods and services. Three parties are involved in the delivery of goods and services: the consumer, provider, and producer. Some objections to privatization may reflect a misunderstanding about the distinction between producing and providing goods or services. Goods and services can be provided through ten different arrangements: government service, government vending, intergovernmental agreement, contract, franchise, grant, voucher, free market, voluntary service, and self service. Multiple, hybrid, or partial arrangements can be

used. Criteria for evaluating the alternatives are: the degree to which the details of the services are specified; the availability of producers; the optimal scale of service; the relative benefits and costs of the service; the level of responsiveness to consumer demand; the susceptibility of service arrangements to fraud; the economic capacity to deliver fair and equitable service to consumers; and the capacity of the arrangements to deliver fair and equitable services to various ethnic or other groups.

Part Three reviews the privatization of various service areas. Part Four outlines how to privatize and some of the problems with privatizing. Savas provides several normative directives for privatization. The book concludes with a discussion of problems associated with privatization. First, problems can arise from the concept itself due to misunderstandings about the theory and application of privatization. Second, some necessary conditions for success are difficult to satisfy (such as enough suppliers to support competition). Lastly, legal, practical, and political issues may arise to complicate implementation.

E. S. Savas, ed. *Privatization For New York: Competing for a Better Future.* New York: New York State Senate Advisory Commission, 1992.

This report is a collection of studies on the potential for privatization in New York state. The report addresses the following: (1) the privatization efforts of other states across the United States; (2) the feasibility of privatizing a number of New York industries; and (3) the privatization experience of the United Kingdom. Study participants were asked to identify alternative methods of producing or delivering services to New York taxpayers without an increase in state taxes. The authors addressed the health services, airport, education, bus, infrastructure, solid waste management, housing, and off track betting industries. Each essay provides a detailed discussion of the benefits, costs, and implementation problems of privatizing the respective industries.

The report begins with a comprehensive review of privatization concepts and research. Savas identifies productivity gains as the main argument for adopting alternative service delivery mechanisms.. Productivity gains in contracting are not a result of salaries, fringe benefits, or service quality. Contracting productivity gains are a result of the following: (1) employees in the private sector have less paid time-off; (2) the private sector makes greater use of part time and lower skilled workers; (3) private sector managers are accountable for production; (4) front-line managers in the private sector are authorized to hire and fire; (5) the private sector utilizes incentive systems; (6) the private sector is less labor intensive; (7) the private sector has a younger work force with less seniority; and (8) the private sector has more workers than managers.

Savas concludes the introductory chapter with discussions of employee concerns, public versus private competition, and privatization recommendations.

Carl D. Thompson. *Public Ownership: A Survey of Public Enterprises, Municipal, State, and Federal in the United States and Elsewhere.* New York: Thomas Y. Crowell Company, 1925.

This early account provides an overview of public ownership in the United States and abroad. The author addresses the occurrence of public ownership in various industries and devotes one chapter to publicly owned water systems. The nineteenth and early twentieth centuries saw steady growth in the number of municipal water systems. As of 1915, according to the author, seven thousand U.S. cities, towns, and villages owned and operated a public water system. By 1924, the 59 of the 69 largest United States cities owned and operated a publicly water system.

In explaining the growth in municipal water systems during this early period in American history, the author cites the following arguments:

- *Public health.* Private enterprises cannot be trusted to keep water supplies clean and uncontaminated.
- *Public safety.* Municipal ownership reassures the public and municipal officials of efficient and equitable fire protection.
- *Public comfort.* Municipalities invest in costly processes to address customer satisfaction issues.
- *Economics.* Municipal water systems are better situated to reach large economies of scale and maintain lower prices, while making adequate profits.

The author concludes the chapter with a review of several case studies and data on public owned water systems in the United States and abroad. In a later summary chapter, the author also presents a list of twenty objections to public ownership of industries.

U.S. Environmental Protection Agency. *Public-Private Partnership Case Studies: Profiles of Success in Providing Environmental Services.* Washington, D.C.: U.S. Environmental Protection Agency, 1989.

The report was designed to serve three purposes: to provide examples of how partnerships work and how they are developed; to provide lessons in implementing successful partnerships; and to provide local communities useful information for developing or choosing partnership options. The various benefits of public-private partnerships are described. The attributes of successful partnerships are identified: local support, supportive legal and institutional environments, ability to secure reasonable private returns, willingness of the

community to work with other communities to form regional approaches, communication, and equitable allocation of risks.

The report provides several case studies of privatization in the areas of solid waste, wastewater treatment, and drinking water. Each case study includes characteristics of the community, the nature of the project, time frame and cost, the public decisionmaking process guiding the selection of a private partner; financing responsibilities of the public and private partners, procurement arrangements, division of responsibilities for project implementation, description of how the project was implemented, an evaluation of why the project was successful; lessons learned and their applicability to other situations, and contacts for further information.

John Vickers and George Yarrow. *Privatization: An Economic Analysis*. Cambridge, MA: MIT Press, 1988.

This seminal text on privatization provides an economic analysis of various related concepts, including ownership, competition, and regulation. The authors focus particular attention on privatization of the British telecommunications, energy, water, and transportation industries. The text begins with a discussion of whether ownership (or organizational form) matters. Ownership does have importance, the authors conclude, because of the significance of a change in property rights to a firm's behavior. The authors also acknowledge the importance of competition and the market in which organization exist. Three themes are emphasized: (1) the role of potential competition; (2) the properties of market competition in providing incentive mechanisms; and (3) competition issues that arise in connection with networks and vertical relationships.

In addition, the regulatory environment also plays a role in determining the efficiency effects of ownership changes. Regulation is viewed as a game between the policy agent and the firms. The authors focus on the incentive properties of various regulatory mechanisms to encourage internal and allocative efficiency. The regulatory reliance on imperfect information can lead to an awkward trade-off between internal and allocative efficiency. Regulated firms and their managers tend to enjoy rewards from their monopoly over information. The authors conclude that better information and competition can lead to greater social rewards. Drawing from the British experience, the authors provide a number of important lessons on the importance of increasing effective competition and improving the long-term effectiveness of regulatory policies to contain monopoly power.

Charles Wolf. *Markets or Government: Choosing Between Imperfect Alternatives.* Cambridge, MA: The MIT Press, 1991.

This text develops the concept of nonmarket failure, that is, government's failure to perform efficiently and produce equitable outcomes. Failures of government are no more egregious, but no less important, than market failures (although market failure has been analyzed far more extensively). The failure of markets is predictable, but the public may tend to exaggerate the problem of markets. The governmental or "nonmarket" sector responds to the supply and demand for government functions. The conditions of nonmarket activity include: difficulty in defining and measuring output; single source production of governmental services; uncertainty of production technology; and absence of bottom-line and termination mechanisms. The theory of nonmarket failure is supported by both practical experience and theoretical generalizations. The author notes, for example, that nonmarket monopolies (or exclusivity) tend to result in redundant or inflated costs.

A typology of market and nonmarket failures also is provided. Market failures are characterized by: (1) externalities and public goods, (2) increasing scale returns, (3) market imperfections, and (4) and distributional inequity (income and wealth). Nonmarket failures are characterized by: (1) disparity between costs and revenues, and redundant and rising costs, (2) internalities and organizational goals; (3) derived externalities; and (4) distributional inequity (power and privilege). Nonprofit organizations appear to be more prone to the shortfalls of governments that those associated with markets.

The theory of nonmarket failure can be incorporated into the design, analysis, and evaluation of public policy alternatives. Conceptually, market and nonmarket approaches can be compared in terms of allocative efficiency, dynamic efficiency, technological, and X-efficiency. Noneconomic criteria (such as equity, participation, and accountability) also can be used in the comparison of alternatives. Public attitudes about government effectiveness are relevant as well. Market and nonmarket efficiency can be analyzed empirically in terms of microefficiency (the relative cost of producing comparable units of a good or service by the market and nonmarket sectors), and macroefficiency (the effects of the market and nonmarket sectors on a nation's economic growth). The choice between markets and governments is not a pure choice; both are imperfect and both create dilemmas. Markets can be used to improve government performance and government can be used to improve market performance. General guidelines are provided for choosing between market and nonmarket solutions.

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