Infrastructure Projects

Latin American Water: Opportunities and Challenges for Private Investment

by Richard J. Cooper, Chantal E. Kordula and Manisha Desai

Opportunities for private sector investment in the Latin American water industry have never been greater. The reasons for this are numerous. According to World Bank estimates, more than a quarter of the population in Latin America does not have access to safe drinking water and half of the population does not have access to adequate sanitation facilities. This situation, combined with the shortage of public funds, weak operational performance of existing water systems, success of public/private partnerships in other sectors of the economy (e.g., power and telecommunications), and pressures from multilateral agencies, has prompted many governments and municipalities in Latin America to open their water systems to private sector participation. Over the next 10 years, the investment needs in Latin America for drinking water and wastewater treatment are expected to be between $50 billion and $75 billion.

The desire of Latin American governments to attract private investment to their water industries comes at a time when the large, primarily U.S. and European private water companies, having invested heavily in their own markets, are looking to the developing world for additional investment opportunities. Many of the big industry players are scrambling to get footholds in Latin America, where water is the last infrastructure frontier for private investors. Suez Lyonnaise des Eaux, one of the oldest and largest private water companies in the world, created a $300 million investment fund, Lyonnaise Latin American Water Corporation, to support the expansion of Suez Lyonnaise into Latin America. Azurix, the U.S. water company created in 1998 as a division of U.S. energy giant Enron, recently completed acquisitions of water and wastewater companies in Argentina, Brazil and Mexico. The United Kingdom water companies have been similarly active.

This article surveys recently completed and pending water privatizations[1] in Latin America and then analyzes the primary challenges that need to be overcome to attract additional private investment to this market.

Recent Latin American Water Projects

The last decade has seen a significant growth in private investment in the Latin American water sector. Set forth below is a brief description of a few of the more notable transactions in some of the larger markets in the region.

Argentina

Argentina set the stage for private sector participation in the Latin American water industry in 1993, with its successful privatization of the water and sewerage systems for the Buenos Aires metropolitan area, one of the largest systems in the world in terms of population. The privatization, part of an overall economic restructuring and liberalization program announced by the Argentine government in 1989, was accomplished through the award of a 30-year concession to Aguas Argentinas

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S.A. ("Aguas Argentinas"), an international consortium comprised of, among others, Suez Lyonnaise, Aguas de Barcelona and the International Finance Corporation (IFC). When Aguas Argentinas assumed control over the operation and maintenance of the water facilities pursuant to the concession, the system was near collapse due to a lack of investment and poor maintenance. The first objectives were to restore and improve service, expand water and sewerage treatment coverage and then begin providing sewerage treatment, in each case within a time frame established by the concession for accomplishing these goals. Since 1993, Aguas Argentinas has invested approximately $1.2 billion in the Buenos Aires system and has incurred $600 million to $700 million in medium-term and long-term debt.

Following the award of the Buenos Aires concession, the government embarked on a series of provincial water and wastewater systems privatizations. A consortium led by the French water company Vivendi (then known as Compagnie Générale des Eaux) was awarded a 30-year concession to run Tucumán's water and sewage system in July, 1995. The concession for the province of Sante Fe was awarded to Suez Lyonnaise in September, 1995. In May, 1998, Azurix, together with SAUR, another French utility company, led a consortium that paid $150 million for a 70-percent equity stake in the water and sewage company of the province of Mendoza. Although most of Mendoza's 1.4 million residents receive service under the existing system, the consortium plans to invest over $300 million over the first 25 years of the 95-year contract on network improvement and increased connections to deal with expected population growth. In May, 1999, Azurix was awarded a 30-year water and wastewater concession for the province of Buenos Aires for which the company bid $438.6 million. Most recently, in April, 2000, the Spanish consortium Asea, led by Spain's Fomento de Construcciones y Contratos, was awarded a 30-year, $332 million concession to operate the water utilities in three areas of the Catamarca province. Asea is expected to invest $43 million in order to expand both water and sewerage services in the three areas.

The Colombian government says it will grant concessions for 17 urban water facilities, three regional services and 47 small municipalities, requiring total investments of $1 billion over the next 20 years.

"Done Deals" in Brazil

Although a great deal of public attention has been focused on the failed transactions in Brazil, some smaller privatizations have been completed. In September, 1999, seeking to establish a Brazilian base for its investment activities in Latin America, Azurix acquired three Brazilian companies providing water drilling, water supply and water and wastewater treatment services in Brazil from AMX Acqua Management Inc., for $55.6 million.

The government of the state of São Paulo successfully awarded a concession for the Limeria water and wastewater system to Suez Lyonnaise. The 30-year concession calls for Suez Lyonnaise to invest $124 million in the system over the life of the concession with the goal of increasing potable water output annually by 25 percent and ensuring that 95 percent of Limeria's 250,000 residents have clean water within five years.

Following the Limeria concession, Suez Lyonnaise has recently made two additional investments in Brazil. In a partnership with the University of São Paulo and the local government, Suez Lyonnaise is developing a program to collect and treat wastewater which flows from a low-income community into the bordering Guarapiranga reservoir, which is the principal source of drinking water for the city of São Paulo. Representatives of Suez Lyonnaise noted that the investment, which was only expected to involve $200,000 to $300,000, will prepare the company for upcoming projects in Brazil that will present more significant challenges.

In June, 2000, Suez Lyonnaise purchased for $107 million a 90 percent stake in Manaus Saneamento, a subsidiary of the sanitary services of the state of Amazonas. Sabesp, São Paulo's state water utility, is seeking private investors to implement its $800 million, three-year investment plan. The plan, which includes the construction of two wastewater facilities, is aimed at providing 100 percent of the drinking water, 90 percent of the sewage collection, and 75 percent of the wastewater treatment coverage to São Paulo's 24 million residents.

The privatizations of Compesa (in Pernambuco) and Embasa (in Bahia) are expected to occur by the end of the year, and there are indications that the privatization of Rio de Janeiro's Cedae may be rescheduled in the near future as well.

Brazil

With the largest territory, population, and economy in Latin America, Brazil presents the greatest number of opportunities for water and wastewater system privatizations, not only in Latin America but worldwide.

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Internet Services (from page 24)

Second Report and Order, CC Docket No. 98-146 (adopted, August 3, 2000).
[3]*Export IT Latin America: Internet, E-Commerce, and Telecommunications Market.*
[4]The distinction was introduced by the List of Conditions for the privatization approved by Decree 62/90.
[5]Rule CNT 1083/95 (ruling issued by the National Communications Commission in Argentina defining value added services).
[6]*Id.* The categories of telephony and VAS are comparable to the division between telecommunications and information services developed by the Federal Communications Commission (FCC) in the United States. In the so-called "Computer I Inquiry" in 1966, the FCC created a mutually exclusive classification between telecommunications and information services. The Telecommunications Act of 1996 continued to differentiate between basic services, now called "telecommunications services," and enhanced services, now called "information services." For a comparison between Internet regulations in Argentina and in the United States, see Kenneth Carter and Ivana Kriznic, New Regulations for Internet Services in Argentina Comparative Perspective with the U.S. Regulatory Framework, available from the Argentina Telecommunications Law Association's website at <http://www.aadt.org.ar/>
[7]Section 9.2 of Decree 62.90 (Decree 62.90 approved the list of conditions of the privatization of the state-owned monopoly ENTel).
[8]Decree 264/98 (Decree 264/98 approved the liberalization plan permitting limited competition between Telecom Argentina, Telefonica de Argentina, and the consortia lead by Movicom and CTI).
[9]Rule CNT 1083/95 and Rule SC 97/96 (considering the Internet a VAS within Rule CNT 1083/95).
[10]Rule CNT 2373/93.
[11]Rule SC 16.200/99 (approving the licensing regime).
[12]But compare the European Union's ruling that Internet telephony does not currently meet all the criteria for voice services. The European Union distinguished VoIP from voice telephony based on the level of development of each service. Directive 90/388/CEE classified VoIP as a VAS. According to Article 1 of Directive 90/388/EEC "voice telephony" means the commercial provision for the public of the direct transport and switching of speech in real-time between public switched network termination points, enabling any user to use equipment connected to such a network termination point in order to communicate with another termination point. See <http://www.europa.eu.int/comm/dg04/lawliber/en/voice.htm>.
[13]Rule SC 170/00. English translation available at <http://www.secom.gov.ar>.
[14]Decree 465/00. Industry's comments submitted to the proposed rulemaking proceeding of Rule SC 170/00 are posted at the site of the Secretary of Communications at <http://www.secom.gov.ar>.
[15]Decree 465/00. Translation by the authors. This new investment requirement applies to all players, including previous licensees of telephony services, with the exception of LSBs. Therefore, licensees under Section 5 Decree 264/98 must comply with the obligations set forth in that rule until November 8, 2000, and, then, from November 8, 2000, and to June 30, 2001, may elect between their original commitments or make the $2 investment. Similarly, licensees under Rule SC 16.200/99 are permitted to elect between the coverage requirements for the first year as set forth by said rule or invest the $2.
[16]Former Rule SC 16.200/99 required the applicant to declare the proposed investment for the first three years in order to (1) show that the applicant's corporate capital was not lower than ten percent of that amount, and (2) post a compliance guarantee valid for three years in the amount of ten percent of that amount.
[17]The regulation does not clarify this figure. ❑

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The Brazilian government estimates that approximately $20 billion will be invested in the sector during the next 15 years. Despite these indicators, the privatization process in Brazil has been slow to gain momentum.

From late 1995 through the beginning of 1996, Brazil announced the privatization of 100 water projects, however many of these privatizations have been either canceled or postponed, for a variety of reasons. The sale of Cedae, the Rio de Janeiro water company, made headlines in the water industry when it was first announced in 1997. Serving 12 million people, it was to become the largest concession for water and wastewater services in the world. BNDES, the Brazilian development bank, had fixed a minimum price of $4.07 billion for the award of the concession. However, since the announcement, the sale has been postponed numerous times because of disputes over the sale's legality. The "on again–off again" nature of the bidding process has resulted in both of the consortiums initially pursuing the project, Azurix and a consortium among Suez Lyonnaise, Vivendi and Thames Water, withdrawing from the process. The March, 1998 attempt by the State of Santa Catarina to sell a 49.9 percent interest in its water company to a private investor was similarly plagued with political and legal challenges when the auction was abruptly canceled.

Chile

Between 1988 and 1990, Chile undertook a major restructuring of its water and wastewater industry, which until such time had been administered by Servicio Nacional de Obras Sanitarias (SENDOS). The restructuring was aimed at providing all Chileans with access to potable drinking water and at least 70 percent of Chileans with adequate sewerage systems by 2008. In connection with this restructuring, a General Law of Sanitary Services, which contained the regulatory framework for industry-granted concessions for sanitation projects, was enacted. SENDOS was separated into 13 new independent state-owned companies which together provide approximately 85 percent of the water service and over 90 percent of the wastewater service to 13 regions throughout Chile. In order to attract additional manage-

The greatest challenge to attracting additional private investment to the water sector is overcoming the lingering political and social bias against private participation in the water sector.

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ment and financing expertise to the companies, change the role of the state from administrator to regulator and reduce the state's holding to less than 50 percent to avoid being subject to the legal constraints applicable to state-owned companies, the Chilean government slated each of the 13 newly-created companies for privatization by 2002.

Esval, the second largest water and wastewater company in Chile servicing the cities of Valparaíso and Viña del Mar, was the first of the 13 companies to be privatized. In December, 1998, Chilean electricity distributor Enersis and British Anglian Water paid $138.4 million for a 40 percent interest in the company. The joint venture, Aguas Puerto, was expected to implement a $230 million four-year investment program. This first auction was followed in July, 1999, by the sale of a 51 percent interest in Essal, the company serving a region in southern Chile, to Iberdrola, a Spanish water company, for $94 million.

Depending upon the terms and conditions of a particular concession, the differences between an outright sale and continued governmental control of the system can be minimal.

In September, 1999, Suez Lyonnaise and Spanish Aguas de Barcelona paid $1.08 billion for a 51 percent interest in Emos, the company servicing the metropolitan region of Santiago. In November, 1999, Aguas Chile, a consortium between Thames Water and Electricidade de Portugal, purchased 45 percent of Essel, which services the region south of Santiago, for $112.5 million. Despite the success of these privatizations, private investors in Chile are now encountering "overlap" problems. Emos was first barred from the Essel auction and is prohibited from participating in the sale of Essbio, the country's third largest company, which is scheduled for the end of 2000, because Emos is nearing a 50 percent holding limit which has been established by the Chilean government.

Mexico

Mexico first attempted to attract private financing to the water industry in the early 1990s. The first program that was established for such private investment included tariff structures that were seen by many in the industry as too aggressive, because consumers were expected to pay high tariffs in instances where they had previously paid little or nothing for water prior to the program. In Aguascalientes, for example, in 1996 the mayor terminated a concession that had been awarded to Empresas ICA, the Mexican construction company, in response to increases in water prices linked to inflation.[2] California-based company U.S. Filter, which in the early 1990s built two wastewater treatment plants in the state of Morelos and invested $20 million in two 15-year concessions, found customers unwilling to pay their water bills following increases in the tariff.

In response to these problems, the Mexican government has developed less stringent regulations and established a government partnership program through Banespa that investors have responded to favorably. The federal and state partnership involves the federal government providing funds to pay a portion of construction costs, thereby reducing the capital expenditures required by private investors, and the state providing investors and their lenders with a backstop guarantee.

In March, 1999, Azurix acquired a 49.9 percent interest in and the right to operate and manage the water and wastewater treatment concessions for Cancun and Isla Mujeres for $13.5 million. Azurix estimates that 65 percent of the concession's operating revenues are derived from the supply of drinking water to tourist hotels whose operating revenues are primarily U.S.-dollar based. The concession requires investment estimated at $44 million over five years. In September, 1999, Azurix acquired a 49-percent interest in IASA Holdings S.A. de C.V., a company that provides metering, billing, collections, operations and maintenance for an area covering approximately one quarter of Mexico City. Darby Overseas Investments Ltd. made its first investment in the Latin American water industry in December, 1999, when its Darby Latin American Mezzanine Fund made a $10 million investment in Tratamiento de Agua de Puebla S.A. sponsored by Suez Lyonnaise and Tribasa, a Mexican construction company. The capital invested is being utilized to fund a portion of the $60 million required for construction and operation of four wastewater treatment plants in Puebla, Mexico.

Colombia

From a private investor's perspective, the water industry in Colombia does not present the same political and security issues that other infrastructure projects in Colombia have experienced, particularly in the oil and gas sector.

In 1997, Suez Lyonnaise des Eaux acted as the sponsor for the $130 million Salitre water and wastewater treatment project in Bogota. It was one of the first wastewater plants in the world to be financed in the international capital markets and the first project financing to incorporate a partial risk guarantee from a multilateral development bank (in this case, the Inter-American Development Bank (IDB)) without a sovereign counter-

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guarantee. In November, 1999, Colombia awarded one of its first 20-year water concessions for the city of Monteria to a consortium led by Vivendi. The concession requires the concessionaire to invest $70 million over the term of the contract to expand and operate water and sewerage services.

The Colombian government recently announced that it plans to continue privatization of sanitary services throughout the country by granting concessions for 17 urban water facilities, three regional services and 47 small municipalities that will require aggregate investments of $1 billion over the next 20 years. Although auctions for concessions in Ibague, San Andres, Neiva and Popayana were postponed for political reasons, a 20-year $220 million concession for the water utility in Cucuta as well as concessions for the Sincelejo and Corozal are planned for the near future. The World Bank is helping the government of Colombia with financing for its investment plan and has committed to provide $895 million between now and 2010.

Peru

In the early 1990s, the administration of President Alberto Fujimori embarked on a privatization program aimed at modernizing the Peruvian economy. Decree Law Number 674 was enacted in September, 1991, creating a state agency to oversee the privatization process and establishing the rules for carrying out the process.

Initial public reaction to the privatizations was favorable and approval ratings for the program averaged around 60 percent until 1993. Popularity declined, however, in the second half of the 1990s in response to tariff increases and the elimination of government subsidies. As a result, in recent years, privatizations have slowed and many previously announced privatizations have been either canceled or postponed.

The privatization of Sedapal, Lima's water and sewerage company, was announced in the early 1990s and was even promoted during an international road show in 1994. In November, 1997, however, Fujimori announced that Sedapal would not be privatized as long as he was in power. The government justified its decision by arguing that the privatization was not necessary as the state company was being run efficiently and had access to financing for modernization and expansion (citing, for example, that investment had increased from $1.10 per inhabitant served by Sedapal in 1990 to $14.70 in 1996). More recently, there has been some indication that the government may seek limited private investment in its water industry. In January, 2000, the government awarded a 25-year concession for the construction, operation, maintenance and transfer of a $80-100 million drinking water system on the Chillon River to a consortium of Italian companies. The government is also pursuing a public auction for the $150 million Olmos reservoir and irrigation concession.

Bolivia

Bolivia has had limited private investment in its water and wastewater systems. In 1997, Suez Lyonnaise led a consortium that won a 30-year concession for the water and wastewater system of La Paz. In 1999, the Bolivian government sold the public water system of Cochabamba, Bolivia's third largest city, to a group of investors led by International Water Limited, an affiliate of U.S. Bechtel. As more fully described below, protests in response to increases in the tariff resulted in the termination of the concession.

Panama

The national water company of Panama, Instituto de Acueductos y Alcantarillados Nacionales (IDAAN), is a semi-autonomous government entity under the auspices of the Ministry of Health. Panama faces serious water shortages due to a growing urban population, increased demand from industries and commerce and deterioration of existing water production and distribution systems. As a result, IDAAN is faced with the need to implement a major investment program in both the urban and rural areas of Panama.

With the advice of the World Bank and the IDB, Panama decided in 1996 to seek the participation of the private sector in the rehabilitation and development of its water industry. In December, 1997, the government awarded a 30-year concession for the Lake Gatun potable water service to a consortium led by British Biwater. Recently, IDAAN has announced its intention to auction a $18-20 million contract to build the Linea de Oriente aqueduct to service 300,000 residents in the central and eastern zones of Panama City.

Issues of regulatory discretion, incentives, penalties, reporting and oversight need to be fully resolved before privatization.

Ecuador

The government of Ecuador is planning the auction of a 30-year concession to operate Ecapag, the water utility for Ecuador's largest city, Guayaquil. The project, funded by a $40 million IDB loan, involves an investment of approximately $72.5 million to implement a rehabilitation program for potable water, sanitary sewage and rainwater sewage in the first five years of the concession. The concessionaire is also expected to make a

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capital investment of $520 million over the next five-year period to expand the services, with the goal of increasing drinking water coverage to 95 percent and sewage coverage to 90 percent by the end of the concession.

Challenges Facing the Latin American Water Market

Despite the successful closing of a number of important Latin American water projects over the last decade, there remain significant challenges facing the industry if the transition from public ownership and control to private operation and management is to continue. Understanding and meeting these challenges is critical if the considerable investment needs of the region are to be met. In an era of fierce global competition for capital, Latin America is still widely viewed as a region prone to political upheaval and risk, and water projects, perhaps like no other infrastructure projects, tend to galvanize the forces that generate such risk.

The Political Challenge

The first, and perhaps the foremost, challenge to attracting additional private investment to the water sector is overcoming the lingering political and social bias against private participation in the water sector. Water, unlike electricity or telecommunications, is widely viewed as a basic life staple, and in Latin America prior to 1990, there was virtually no precedent for private participation. In addition, because of the obvious health and environmental considerations, providing safe drinking water and proper sanitation services is considered not only a proper government function but an essential public service. Recognizing these perceptions and understanding the challenges that they present is crucial to the further deployment of private capital to this sector.

If significant additional investment in the Latin American water sector is to occur, there will need to be a greater government commitment to raising tariffs to permit private investors to meet their contractual commitments and realize reasonable returns.

Host Country's Concerns

In practical terms, what does this mean? From a host country's perspective, the transition from public ownership to private sector management has to be carefully planned. First, the appropriate form of private sector participation has to be used, whether it involves a limited service contract, a concession or an outright sale. In Latin America, the most widely used method of introducing private sector investment into the water sector has been the concession model, where ownership of the assets remains in the hands of the public sector but private companies are contracted to operate, expand and enhance the system. Concessions have been used in Argentina, Brazil and Mexico because, in each of these countries, there has been strong opposition to outright sales. Depending upon the terms and conditions of a particular concession, however, the differences between an outright sale of the system and continued governmental control of the system can be minimal.

For example, the privatization of the Mendoza water system in Argentina involved a 95-year concession which provided the concessionaire with significant responsibility and control over the system. Chile, by contrast, has structured its water privatizations differently; each privatization has been structured as a sale of an interest in the water company rather than as a concession. Two of such sales have been sales of a strategic interest where the investor purchases 35 percent to 45 percent of the equity of the company but gains effective control of the company through shareholder arrangements with the government retaining veto power over certain key decisions. For the host government, the key is to select the form of private sector participation that will be acceptable to consumers and other interested parties.

Second, the public has to be educated as to the benefits that will flow from private participation and made to understand the link between improvement in services and increased tariffs. Many governments that have successfully privatized their water systems have preceded the privatization with a series of rate increases to lessen the need for and diminish the political fallout that may result from any subsequent rate increases by the new operator. Others have structured the concession so that water charges are increased gradually and there is no up-front payment by the concessionaire to the government for the concession, the inclusion of which almost certainly requires an increase in rates. Still others have tied rate increases to service improvements hoping that public reaction to such increases will be muted by recognizable improvements in the quality of service.

Private Sector's Evaluation of Risks

From the private sector participant's perspective, a careful assessment of the applicable political and social environment must be undertaken to determine whether private sector involvement in the water sector presents acceptable risks given the expected economic returns that will be generated. Undoubtedly, this will require the participant to analyze the stability of the host government,

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its experience with other privatization projects, the standing and experience of the local water company, the degree of local support for the transaction, the willingness of the population to pay for water, and the demographics of the community. The private sector participant will also want to ensure that the bidding process has been conducted in a transparent manner to avoid subsequent challenges and criticisms. Finally, it will need to take seriously such tasks as community service programs and marketing campaigns to sell to consumers the virtues of private investment in this vital industry.

The failed concession for the northern Argentine province of Tucumán clearly demonstrates the risks that private investors face when the environment turns hostile. A consortium led by the French water company Vivendi was awarded a 30-year concession to run Tucumán's water and sewage system in July, 1995. To finance an aggressive investment program, the new company, Aguas del Aconquija, doubled tariffs within months of the privatization. Shortly after this increase, there was a changeover in Tucumán's provincial government. The new governor was opposed to the privatization and alleged that the process lacked transparency because it was approved during the last days of the previous government. The governor opposed tariff increases and even encouraged consumers not to pay their bills. More than 80 percent of the population heeded this advice. Vivendi tried to pull out of the concession in August of 1997, but the government insisted that it keep operating until March, 1999. Forced to keep providing the water despite the non-payment,[3] Vivendi alleged that it was losing $2.8 million per month. Fearful of alienating foreign investors, then-president of Argentina Carlos Menem tried to smooth over the differences and the federal government offered to take over management of the water company until a new tender was organized. Vivendi was finally able to rescind the contract in October, 1998, the first such rescission of a contract in the company's 145-year history. Vivendi has filed a suit claiming damages of more than $200 million before the World Bank's International Centre for Settlement of Investment Dispute in Washington.

The Regulatory Challenge

A second challenge that must be overcome if the transition towards private management and control is to continue relates to the often conflicting regulatory regimes that apply to the Latin American water sector. Because of the monopolistic nature of the water business, the industry is highly regulated to protect consumers from excessive charges and to ensure adequate water quality and wastewater treatment. However, in any one market, regulation is often within the jurisdiction of more than one governmental authority (e.g., health, environmental and antitrust authorities) and often exists at both the national and the local level.

Jurisdictional disputes over regulatory issues often can be fatal to the privatization process itself. This has certainly been the case in Brazil where, for example, the privatization of Rio de Janeiro's Cedae was abruptly canceled by the Brazilian Supreme Court shortly after it was announced as a result of a dispute between the state and city authorities over ownership of the assets. Even when these issues do not prevent a privatization transaction from going forward, lack of regulatory clarity can affect the valuation of the business or significantly delay the process.

After a system is privatized, the difficulty of dealing with multiple regulators is frequently compounded by the fact that the regulations are new and untested, regulators are often given wide latitude to interpret contractual or statutory provisions regarding critical matters, such as rate adjustments, and the regulatory process is frequently not transparent. Although it may be possible for an investor to reduce the level of discretion given to a local official when it negotiates or comments on the terms of the privatization documentation, it is often difficult to do so and, in any event, disputes may arise. An additional difficulty is that in most Latin American countries the applicable regulatory regime and related administrative law principles are not well developed. With the exception of Chile (which overhauled its entire regulatory system before embarking on its privatization program), most jurisdictions develop the applicable regulatory scheme as part of the privatization process. This makes it more difficult for a private investor to make informed judgments as to the integrity of the regulatory process prior to bidding on a concession.

From a financing perspective, Latin American water projects present a number of challenges.

To address the challenge presented by this situation, host countries should consider adopting the appropriate regulatory scheme for the form of private investment they are seeking prior to the actual privatization. In the concession context, for example, a host government should identify the regulatory tasks that will be required when operation of the system is turned over to the private sector and determine what changes in the applicable legal regime need to be made (including whether there are overlapping or conflicting laws that will affect the operation and management of the system or the privatization itself). Issues such as how much regulatory discretion should be permitted, what incentives and penalties

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should be included, and what reporting and oversight will be required need to be fully considered and resolved prior to the privatization. For the private investor, the applicable regulatory framework is a critical aspect of its investment decision and the clarity, capacity and content of the regulatory system will influence both its willingness to participate and the cost of such participation.

The Revenue Challenge—Upgrading Facilities while Keeping Rates Low

Another big challenge that participants in Latin American water projects face is reconciling the often ambitious capital improvement projects required by the terms of a concession with the need to maintain a sustainable and affordable tariff for consumers. Frequently, water concessions require the concessionaire to satisfy specific performance targets relating to coverage, system upgrades, and operating criteria (e.g., agreed decreases in unaccounted for water). To meet these requirements, the concessionaire must increase tariffs but, for political and social reasons, such increases are often difficult to implement even if such increases are provided for in the terms of the concession.

The Financing Challenge

Latin American water projects present a number of financing challenges.[4] First, Latin American water privatizations tend (with a few notable exceptions) to be relatively small in scale. Many of the municipal water privatizations in Latin America involve financings requiring less than $50 million in total funding needs. As a result, it is often difficult to attract the interest of multilaterals, let alone commercial banks or institutional investors.

Second, many of the Latin water privatizations involve sub-sovereign governments such as state and

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Higher Tariffs Result in Customer Backlash

Increases in water charges can have disastrous consequences on the viability of a concession. In 1999, the Bolivian government sold the public water system of Cochabamba, Bolivia's third largest city, to a group of investors led by International Water Limited, an affiliate of the U.S. company Bechtel. Within months of the sale, the new water company, Aguas del Tunari, reportedly increased rates so dramatically that customers were paying nearly double the rates they had been paying prior to the privatization. In a country where the minimum wage is less than $100 per month, consumers reportedly were suddenly receiving water bills amounting to $20 or more. Residents took to the streets, staged a general strike and shut down the city for four days. Following failed negotiations between community leaders and the government, riots ensued and martial law was declared in the province. Facing mounting pressure, the international consortium pulled out of the $200 million project in April of this year and the water company is now back in the hands of the state.

Despite the seeming conflict between satisfying operating and capital commitments required by the concession and avoiding tariff increases, governments and investors have found ways to address this issue. One method of meeting these requirements without substantially increasing the tariff is through the adoption by the new concessionaire of improved operating procedures and inexpensive capital improvements. For example, it is widely known that state-run water companies in Latin America suffer from inadequate billing and collection practices. The original bid documents for the privatization of Cedae indicated, for example, that 51.7 percent of the water produced was lost to technical inefficiencies (i.e., broken pipes, leakage, theft) and that 22 percent of the invoices billed were not collected. In such a case, increasing the billing and collection rate alone through better management can markedly increase the company's revenues. Additionally, reducing operating expenses by optimizing the company's work force is another fertile ground for improving the company's financial performance and thereby lessening the severity of future rate increases.

Another means of increasing the concessionaire's revenues without impacting the level of the tariff is to permit the concessionaire to generate revenue from non-water-related activities. The Cochabamba concession in Bolivia was structured this way, although the concession was terminated before the concessionaire could realize revenue from the generation and transmission of the hydroelectric power that it was authorized to provide. Other concessions have permitted concessionaires to generate non-water revenue through the provision of telephony services, the laying of fiber optic cable or the provision of other utility services.

In the end, if significant additional investment in the Latin American water sector is to occur, there will need to be a greater government commitment to raising tariffs to permit private investors to meet their contractual commitments and realize reasonable returns. Although tariff regimes should always be structured to protect the poorest in the community through targeted subsidies, local governments will need to do a better job of educating their citizens to the link between expanded access and improved service and higher tariffs.

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municipal governments. To the extent these entities are providing credit support for the payment of tariffs, the convertibility of local currency or changes in exchange rates, they generally do not have an established credit history or track record when it comes to satisfying these types of obligations. In addition, sub-sovereign governments tend to be more susceptible to changes in policy when it comes to issues affecting foreign investment than their federal or national counterparts (perhaps due to the latter's greater sensitivities to the ramifications of such changes on future investment). All of this makes the concessionaire's task of arranging satisfactory financing more difficult.

Finally, because water and wastewater projects are capital intensive (more so than electricity and telecommunication projects, for example) and there are significant practical limitations on the concessionaire's ability to increase tariffs, the tenor of the financing that the concessionaire needs to obtain to make the project economically viable needs to be longer than other infrastructure projects. If long-term financing cannot be obtained at attractive rates, the concessionaire will come under increasing pressure to increase tariffs beyond levels that may be sustainable.

Host governments, developers and financiers need to devise new methods for financing water projects on a cost-efficient, long-term basis.

Role of Multilaterals and Export Credit Agencies

Historically, multilateral and export credit agency financing have been key sources of funding for water and wastewater projects in Latin America. The participation of institutions such as the IDB or the IFC in water projects offers real advantages to the concessionaire. Aguas Argentinas was one of the first concession-based projects to be financed under an IFC umbrella with the support of commercial banks. The early participation of the IFC in the project was essential in obtaining the large amount of financing required for that project. The participation of the IFC, which not only provided loan financing but also took an equity position of 5.12 percent, lent transparency and credibility to the project, widened international interest in the project, increased competition in the bidding process and gave other lenders comfort regarding issues of political risk.

Although the terms and tenor of multilateral and export credit agency financing are generally more favorable to the concessionaire than traditional commercial bank financing (except in rare cases), the tenor of such financing is not as long as what is available in the project bond market for other infrastructure projects (e.g., 15 plus years).

There are other problems as well. For one, export credit agency financing is not always practicable in the privatization context given the limited amount of construction work that is initially required and the eligibility and other procedural limitations that are associated with export credit agency financing (e.g., "reachback" and domestic content rules, etc.). Another problem involves the high transaction costs and lengthy time periods required to obtain these types of financings, which make multilateral lending and export credit agency financing less than ideal in the smaller municipal water projects that are subject to tight time schedules due to competitive bidding procedures.

One of the most important challenges that host governments, developers and financiers face in attracting additional private sector investment to the Latin American water sector in the coming years is devising new methods for financing such projects on a cost-efficient, long-term basis. The recent increase in general municipal bond financings in countries such as Argentina, Brazil and Colombia, is a possible sign that capital market investors may be getting more comfortable with some of the political and economic risks associated with these credits. In addition, financings involving partial risk guarantees (such as the Salitre water and wastewater project in Colombia) and programs of the type recently created by the Overseas Private Investment Corporation and certain private sector political risk insurers (whereby political risk coverage is provided to capital markets investors) offer some hope that financing structures can be devised that will address the significant capital requirements of Latin American water and wastewater projects and the limited capacity of the newly privatized businesses to generate additional cash flow through rate increases.

The Information Challenge

State and municipal water systems in Latin America, as in other emerging markets, are generally not able to produce accurate information and records regarding their assets, liabilities, procedures, revenues and costs. This situation is compounded by the fact that the systems are generally poorly maintained and difficult to inspect given the underground nature of the piping system and other equipment. This lack of information can not only affect the bidding process and the valuation of the concession by the private investor, but can also affect the allocation of responsibility and liability under the concession by obscuring the baseline from which to monitor a

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concessionaire's performance or allocate responsibility or liability under the agreements.

Host country governments need to address this situation, which is more acute in the context of the privatization of an existing water or wastewater system than the development of a greenfield water or wastewater facility. Independent consultants and auditors should produce reports concerning the water company prior to its privatization. If this is not possible or feasible, consideration should be given to having the concessionaire enter into an interim management contract prior to the privatization to afford it and the local government an opportunity to determine whether the tariff structure and expansion requirements are realistic and sustainable. Every effort should be made to produce comprehensive, quality information that can be shared in a transparent manner with all interested parties. To do otherwise is to invite private investors to discount the value of the concession and / or to seek to renegotiate the tariff after they acquire the concession.

With the largest territory, population, and economy in Latin America, Brazil presents the greatest number of opportunities for water and wastewater system privatizations, not only in Latin America, but worldwide.

Conclusion

Although the investment opportunities in the Latin American water and wastewater sector have never been greater, there remains a number of important challenges that need to be overcome if the investment needs of this sector are to be met. Given the global competition for capital and the significant returns that are possible in less politically risky markets, successfully meeting one or a few of these challenges may not be enough. Local governments, multilaterals and industry participants will need to make a concerted, systematic effort to find creative solutions to the challenges facing the market if significant progress is to be made.

The Labor Challenge

Latin American water companies are notoriously over-staffed and frequently unionized.[5] In addition, there is usually a dearth of talented managerial talent. Addressing the issues associated with entrenched and poorly trained work forces is one of the most difficult issues that host country governments face when trying to attract private investment to the water sector. For the private investor, addressing this situation is crucial, not only because of the obvious financial implications for the newly privatized company (at the time it was privatized, it was estimated that approximately 70 percent of the current and expected operating costs of the Buenos Aires water system was attributable to labor expenses) but also because of the political and social consequences that may result from a volatile workplace environment.[6]

Investors often seek to address staffing and labor issues in the privatization documentation, and host governments sometimes have been willing to agree to redeploy employees to other public sector jobs or to consent to and bear the cost of post-closing work rationalization plans. If private participation in the water sector is to continue to expand in Latin America, investors will need to be insulated from the often significant legal restrictions and financial burdens (e.g., including generous severance payments and extensive health and benefits coverage) imposed on investors seeking to optimize their newly inherited workforce. Given the host government's greater bargaining position and ability to absorb these costs or redeploy these resources, it makes sense for the local government to take the lead in dealing with these issues prior to the privatization. Failure to adequately and clearly address these issues will, at a minimum, increase the cost of private investment and, in the worst case scenario, deter private investors from participating in the market.

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[1]This article generally focuses on privatization and similar transactions involving existing water and wastewater systems rather than greenfield projects involving the development, construction and operation of new facilities. Although greenfield projects represent an important segment of the water and wastewater market in Latin America, they generally are smaller in scale and less politically and socially controversial than privatization transactions. For an analysis of the different options for private sector investment in international water and wastewater projects and the different considerations relevant to investments in existing facilities and greenfield projects, see Richard J. Cooper and Chantal E. Kordula, The New Wave: Private Sector in International Water, Project Finance International, Feb. 23, 2000, at 52.

[2]The concession was subsequently reinstated following federal government-brokered negotiations.

[3]In many emerging market jurisdictions local laws prevent the concessionaire from shutting off a user's access to water even in the case of non-payment.

[4]The financing issues associated with greenfield water projects are often more manageable. Greenfield projects tend to be less politically controversial, do not present the labor and information challenges that privatization transactions do, often ben-

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efit from offtake commitments or support from government counterparties, and attract the interest of export credit agencies because of the construction aspect of the project. Of course, greenfield projects present other, more typical financing challenges (e.g., completion risk, etc.).

[5]On average, publicly-owned water facilities in developing countries have a ratio of 5 to 10 employees per 1000 water connections whereas a similar system in the U.S. or Western Europe might have a ratio of 2 to 3 employees per 1000 water connections.

[6]Many emerging market water privatizations are structured so that employees of the privatized utility are entitled to an equity stake in the privatized entity (with corresponding board representation), thereby further complicating the investor's ability to optimize the labor force and negatively affecting the project's economics for the investor, including by reducing its percentage of the project's equity. ❑

Market Notes (from page 5)

Argentina account for 95 percent of the auto sector trade within the customs union. Because of the huge share of Mercosur trade represented by the auto sectors of Brazil and Argentina, the latest dispute between the two nations has mobilized government officials and auto executives from both countries. Negotiations for a solution began on August 16 but made no progress. A new round of talks was scheduled for August 23. Brazilian diplomats said that Brazil would continue to insist that what counts is the auto accord signed in June and not the August 1 Argentine decree. Prior to the auto dispute on July 24, Argentina adopted punitive action against imports of Brazilian chicken meat, accused of dumping. The Argentine government set a minimum price of $0.98 per kilo for the frozen chicken, a level that Brazilian producers charged would price them out of the Argentine market. Brazil's official reaction came quickly with angry public statements by government officials and threats to take the question to the World Trade Organization. Foreign Trade Secretary Lythia Spíndola said that Brazil would appeal to the Mercosur's dispute settlement organ and if that failed would ask for a WTO dispute panel.

Foreign Direct Investment up by 40 percent for first six months. Brazil's current account deficit ended the first period at $11.3 billion, over $1 billion below the total of $12.447 billion for the same period last year and the lowest result for the semester since 1996. The June deficit was $2.4 billion, down from $2.9 billion in June, 1999. The annualized deficit totaled $24 billion in June, the equivalent of 3.96 percent of gross domestic product. This compares with $32.7 billion and 4.92 percent of GDP in June, 1999. Foreign direct investment in June soared to $3.7 billion, the highest figure of the year. FDI for the first six months of the year totaled $13.8 billion, easily covering the semester's current account gap. Although privatization revenues have fallen this year, in the semester non-privatization FDI rose 40 percent over the same period last year. According to figures released by the Central Bank, the services sector accounted for 73 percent of the semester's FDI, including $2.3 billion for the telecommunications sector and $2 billion destined for financial institutions. Investments in industry accounted for 24.8 percent of FDI and the farm sector received 2.2 percent. Most of the improvement in the semester deficit resulted from the trade balance which went from a gap of $620 million in 1999 to a surplus of $819 million this year. The services deficit showed little variation, increasing by $688 million from 1999 to $13.1 billion this year. Net profit and dividend remittances fell from $2.35 billion in the first half of 1999 to $1.9 billion. Debt interest payments increased slightly from $8.8 billion in 1999 to $8.9 billion this year. International travel by Brazilians picked up in the second quarter, leaving total net travel related outflows at $833 million, up from $569 million for the first semester of 1999, a period when travel fell sharply due to the January currency devaluation. Foreign issues by Brazilian firms declined in June, totaling only 13 with total volume of $889 million. This left inflows for the semester at $9.2 billion, down from $13.6 billion for the same period last year. Brazil's ready reserves fell $306 million in June to $27.6 billion.

Bolivia

Empresa Petrolera Andina assets may be losing their appeal. Argentine oil companies Perez Companc SA and Pluspetrol Resources SA are reportedly considering selling their interests in Bolivia's Empresa Petrolera Andina. Sources have attributed the sudden interest to sell to the realization of limited growth potential in Bolivia. Andina is 50 percent owned by a consortium comprised of Perez Company, Pluspetrol, and Repsol YPF SA; the other 50 percent is held by private Bolivian pension funds. Perez Companc has nearly 41 percent of the consortium's share and Pluspetrol 19 percent.

Colombia

Autotote halts services contract with Equus Comuneros. Autotote Systems Inc. said it suspended performance of a services contract with Equus Comuneros SA of Colombia, effective August 1, due to a debt of more than $500,000. Autotote is the exclusive provider of computerized wagering services to Hipodromo de Colombia under a contract that runs from January 1, 1999 until 2006. On July 26, Autotote initiated international arbitration proceedings against Equus Comuneros and three affiliated companies to recover a total of more than $1,150,000 in unpaid fees. Autotote Systems and its

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