



This item was submitted to Loughborough's Institutional Repository (<https://dspace.lboro.ac.uk/>) by the author and is made available under the following Creative Commons Licence conditions.


C O M M O N S D E E D

Attribution-NonCommercial-NoDerivs 2.5

You are free:

- to copy, distribute, display, and perform the work

Under the following conditions:



Attribution. You must attribute the work in the manner specified by the author or licensor.



Noncommercial. You may not use this work for commercial purposes.



No Derivative Works. You may not alter, transform, or build upon this work.

- For any reuse or distribution, you must make clear to others the license terms of this work.
- Any of these conditions can be waived if you get permission from the copyright holder.

Your fair use and other rights are in no way affected by the above.

This is a human-readable summary of the [Legal Code \(the full license\)](#).

[Disclaimer](#) 

For the full text of this licence, please go to:
<http://creativecommons.org/licenses/by-nc-nd/2.5/>

Making regulatory mechanism work- Lessons from cases of Private Sector Participation

T. Frade and M. Sohail

Abstract

This paper is about the regulation of private sector participation (PSP) in public water utilities. Using case studies from Argentina, Chile and the United Kingdom, it identifies and discusses the regulatory mechanisms that have been introduced and the issues surrounding information access, price and service quality regulation. The paper also analyses what measures have been implemented in these three cases in order to achieve regulatory accountability, independence and an adequate level of financial and human resources.

The method adopted was case survey including the analysis of official regulatory documents and other relevant material and validation by an expert panel. It investigates the conditions that are necessary for regulatory mechanisms to be implemented and operated effectively in each context, and draws out some general conclusions for areas of improvement.

Introduction

In 1999, the United Nations observed that whereas in 1950 thirty per cent (30%) of the world's population lived in urban areas, by 2000 the proportion of urban dwellers would have risen to 47 per cent. The world's urban population is expected to reach 60 per cent by 2030. Most of these new urbanites live in low-income settlements that lack access to basic services such as a water supply and sanitation. In 2000, the World Health Organization (WHO) estimated that 1.1 billion people lacked access to potable water and 2.4 billion lacked access to basic sanitation (WHO, 2000). It is estimated (unpublished professional estimates) that capital expenditure of around \$800 billion is needed in order to respond to water need around the world. It is envisaged that bulk of this needed capital will be privately financed.

Under appropriate regulatory conditions, the introduction of private sector participation (PSP) can provide water utilities with greater management expertise, a greater ability to attract investment and a greater ability to reduce operation and maintenance costs. It is possible for a PSP arrangement to provide a quality of service that public water utilities have not been able to deliver or sustain. However, while on the one hand PSP can bring benefits to the operation of water utilities, it is also true that a rushed introduction of PSP, without a well-established regulatory system, can have negative impacts on a water utility's efficiency. Such a rushed introduction is strongly discouraged by major donor agencies such as the World Bank (Delmon, 2001 and GWR, 1999).

Private Sector Participation (PSP) in water utilities can take many forms, including service, concession, lease, management, BOT (Build-Operate-Transfer) contracts, and semi or full divestiture. The best form to introduce depends on factors such as the socio-economic and political characteristics of the country in question.

This paper analyses the regulatory systems used in water utilities in three different countries in the context of water utilities. It investigates the conditions that are necessary for regulatory mechanisms to be implemented and operated effectively in each context, and draws out some general conclusions. The case

studies were chosen to represent countries at different stages of economic development so as to compare the reality of PSP regulation in developing and developed countries.

The authors based their findings on a review of the published literature and case materials, including unpublished, official documents (for example, concession contracts, regulatory frameworks, etc.), which were then validated by interviewing a panel of international experts. Communication with the panel was by email and telephone calls. The authors developed a checklist to guide but not restrict this communication. Through these discussions, they identified the points of convergence and divergence from the case studies. In most cases the experts agreed to give their personal, professional opinion rather than their organization's viewpoint and requested anonymity. Hence their credentials cannot be published. The authors selected the panel members through their reputation in the field and their published work on the topic. At the time of the interviews, all the panel members had several years' relevant experience of direct or indirect involvement in the regulation of large public-private partnerships (PPPs). The panel members included people from the Caribbean and Latin America as well as operators, regulators, dispute jurors, consultants, people from multilateral donor agencies and academics.

Policy towards disclosure of information in regulatory offices varies between countries, but there is a general lack of information relating to conditions of contract, the basis for tariff setting, investment, and to business plans and financing agreements. The authors decided to study Buenos Aires in Argentina, Chile and England and Wales based on factors such as the maturity of contracts, the variety of mechanisms used, the variety of socio-economic and political contexts and the resources that were available to conduct the research.

Case 1. Buenos Aires, Argentina

Background

Argentina is located in South America, and borders Bolivia, Brazil, Chile, Paraguay and Uruguay. It is the second largest country in South America and is administratively divided into 23 provinces and one federal district. The capital, Buenos Aires, is on the East Coast. According to the United Nations Development Program (UNDP, 2001), the population of Argentina in 1999 was around 36.6 million, of which 9 per cent had access to improved water resources.

Governments and local governments normally introduce PSP when the water sector is in crisis and there is a need to solve financial and managerial problems. According to regulatory agency, *Ente Partidario de Obras y Servicios Sanitarios* (ETOSS), the main reasons the Argentinean government decided to introduce PSP in Buenos Aires was to attract the investment necessary to improve the quality of services provided by water utilities and to allow the expansion of utility coverage in order to satisfy an increasing demand (Alcázar and Brook-Cowen, 1996 and ETOSS, 2001c).

At beginning of the concession contract, an estimated 5.5 million people in the regulated area (65 per cent of the population) were connected to the water supply system and 4.6 million (54 per cent of the population) to the sewerage system. By 2001, some 7.8 million (82 per cent of the population) were connected to water supplies and 5.8 million to sewerage systems by the private water consortium, *Aguas Argentinas*.

The public water utility, *Obras Sanitarias de la Nación* (OSN), despite having qualified and experienced staff, was seriously under funded and in some areas over-politicized, with the political appointment of OSN managers, for example. This resulted in the utility's overstaffing, a lack of motivation among its staff, unjustifiably low tariffs, low cost recovery and a lack of capital investment—all of which were hampering the utility's progress (Alcázar et al., 2000).

The Argentinean government decided to solve these problems by privatizing the Buenos Aires water and sewerage system through a concession contract. In June 1992, the bidding process began and a private water consortium, *Aguas Argentinas S.A.*, formed by a group led by *Lyonnaise des Eaux* (Table 1), was awarded the contract.

The regulatory system was an integral part of the PSP because of the need to ensure that the winning operator did not abuse its monopoly position. The system used in this case was **regulation by contract** (Jouravlev 2000), where the majority of rules and regulations were stated in the Concession Contract (ETOSS, 2001a) and Regulatory Framework (ETOSS, 2001b), with all the operators inside the regulated area following that set of rules. The Argentinian government set up the regulator, ETOSS, to monitor and enforce the regulations and gave it responsibility to carry out a multitude of tasks, as presented in Box 1.

Box 1. Main tasks of the regulator, ETOSS

- To assure, through efficient control, that the operator complies with the Concession Contract, the Regulatory Framework and Argentinean laws.
- To approve the customer service code of conduct proposal presented by the operating company.
- To compile the information necessary for regulatory tasks, such as price and service quality control.
- To approve the operator's expansion plans and ensure that the operator complies with the service and coverage expansion regulations.
- To publicize the operator's expansion plans and any new tariffs.
- To analyse the annual information provided by the operator.
- To adjust and review tariffs when needed, ensuring any adjustments fall in line with contractual specifications.
- To ensure that new tariffs are introduced adequately and that the operator complies with the new tariff regime.
- To receive and investigate customer complaints.
- To act upon any confirmed operator misconduct.

- To apply penalties in cases of proven misconduct or breach of contract by the operator.
- To report to the government if a serious breach of contract regulations occurs.

Source: ETOSS, 2001b

Regulatory mechanisms

There were three main areas around which the regulatory mechanisms were devised—regulation of information access, price regulation and service/quality control.

Regulation of information

Regulators need information from operators in a form that enables them to carry out their work. Article 39 of the Regulatory Framework prescribes that the private operator has to provide the regulator with records of the service it has provided, along with information that demonstrates that its actions and performance meet the terms stated in the Concession Contract and Regulatory Framework (ETOSS, 2001b).

Article 40 of the same document attempts to guarantee the information's quality and accuracy by stating that the information provided by the operator must be verified by an independent technical and financial consultant chosen by the operator and agreed by the regulator.

Finally, article 41 states that the private operator is responsible for publishing information on the minimum quality standards and the quality of services delivered, and for making this information easily available to the public.

It can be seen that the Regulatory Framework ensures that the regulator has adequate access to relevant information. What is not so certain is if, in practice, the regulator has the financial and technical capacity

necessary to collect and interpret that information, and thus to reduce information asymmetries. Several experts from the panel suggested that, despite these measures, information asymmetries continue to be a problem in the Buenos Aires concession contract.

This view, that the regulator lacks the technical capacity and experience necessary to reduce information asymmetries, is endorsed by Alcázar et al. (2000). This author states that ETOSS lacks historical records, hence is unable to effectively benchmark performance. In essence, the regulator did not use the mechanisms it had available for information asymmetry reduction effectively.

Price regulation

The regulator's tariff review system aims to ensure that tariffs reflect the real economic cost of the services provided. It also aims to make the relationship between the operating company and customer transparent by increasing the information available on tariffs—for example, what the tariffs are made up of and how they were derived (ETOSS, 2001a; 2001b).

During the bidding process, the tariff system used the retail price index (RPI-K) formula. In this, a retail price index (flat rate) is set depending on the service being delivered (water or water and sewerage) and the type of consumers (residential or non-residential). The retail price index is then multiplied by an adjustable factor, K, which takes into account the private operator's forecasted costs and investments. The product of the multiplication is then adjusted according to factors such as the size, location, age and category (low- to high-budget) of the property. The contract was then awarded to the bidder who, based on this formula, offered the greatest tariff reduction. The successful was *Aguas Argentinas S.A.*, who offered to reduce water tariffs by 26.9 per cent (K was valued as 0.731) (Alcázar et al., 2000; ETOSS, 2001c).

The regulatory system provides for tariffs to be revised every five years. The review is the responsibility of the regulator (ETOSS) guided by the Concession Contract and Regulatory Framework. Under

extraordinary conditions (for example, a fluctuation of ± 7 per cent in the operator's costs, new legislation, tax changes, etc.) the review can be undertaken earlier.

The establishment of tariffs that reflect the real costs of providing services depends on an accurate valuation and forecast of the operator's costs and investments. It was extremely difficult for the regulator to evaluate and forecast *Aguas Argentinas S.A.*'s operation costs and investments accurately. This was because the relevant information was not available in a suitable form, resulting in information asymmetries in the regulatory system (Alcázar et al., 2000; Loftus and McDonald, 2001).

The tariff review process generated debate because of frequent decisions, either taken or approved by the regulator, to increase water tariffs and introduce what consumers perceived to be unjustified extra charges.

For example, an extraordinary tariff review was triggered in September 1994, just one year after the concession, when the operator reported an increase of 7 per cent in its operating costs on the basis of bringing forward some of its expansion plans at the request of the government. The government wanted immediate provision of services in some of the poorer neighbourhoods. Why such provision was not envisaged at the pre-bid stage remains a question, but there is a suspicion that the non-recognition of some of the poorer neighbourhoods was a political strategy that in this case turned into a financial liability for the private operator and a political liability for the Argentinean government .

Then, in May 1998, five years after the concession began, tariffs were reviewed once more. The regulator decided to increase tariffs by 5.31 per cent (ETOSS, 2001b, and Artana et al., 1998). The tariffs were now only 12.5 per cent lower than those that had been applied by the public water utility, *Obras Sanitarias de la Nación* (OSN) (ETOSS, 2001a). The former Mayor of Buenos Aires and former President of Argentina, Fernando de la Rúa, went even further, stating that 'water rates, which *Aguas Argentinas S.A.* said would be reduced by 27 per cent, have actually raised a total of 20 per cent' (Anon, 2000).

Even if the 1994 tariff increases were explained by the need to rapidly expand service provision, Loftus and McDonald (2001) argue that granting the increase so soon after awarding the concession undermines the whole reason for using PSP. The private company should have financed its own expansion plans, but instead created a situation where there was a danger of the private operator 'banking the tariff increases and earning interest while delaying the cost of extensions for as long as possible' (*ibid.*).

The introduction of extra charges to water bills was controversial—the regulator also negotiated these. In particular there is a charge called SUMA (*Servicio Universal y Medio Ambiente*). The SUMA, which came into effect in 1998 (Artana et al., 1998; Loftus and McDonald, 2001), was introduced to generate capital for environmental clean up operations and network expansion. It was highly contested by many and the Buenos Aires consumer watchdog took the operator to court. The courts decided that the SUMA charge was not legal, but after an appeal from the Minister for Natural Resources and Human Development this initial decision was overturned and the charge was introduced after all. The SUMA network expansion works are going more slowly than agreed and the environmental clean up has not started (Loftus and McDonald, 2001).

During a public hearing in June 2000 (ETOSS, 2001d) a member of the Argentinean Senate's administrative staff pointed out that in addition to the SUMA charge, further surcharges were being applied to tariffs by the private operator. These included a charge to customers called OPCT (*Obras por Cuenta de Terceros*), made to speed up connection to the network. In some cases connections were delayed until customers paid the complete OPCT charge.

Service quality control

The effectiveness of service quality control will depend on the capacity of the regulator to monitor the quality of services in such a way that any unjustified non-compliance can be detected and responded to in effective and efficient manner.

The Concession Contract and Regulatory Framework provide a set of measures to monitor the quality of services delivered to consumers. The two documents describe the standards required in areas such as water quality, water pressure and reliability of service. They also require that the operator inform the regulator if those standards are not met, provide reasons for non-compliance and take steps to attain the agreed minimum service quality standards. The operator also has to provide consumers and the regulator with an annual report on the level of service quality it has delivered to consumers in the preceding year (ETOSS, 2001a; Regulatory Framework ETOSS, 2001b).

By publishing the service quality report, the operator is giving a clear picture to consumers and the regulator of the service consumers are receiving and of future targets the company aims to achieve. In case of any unjustified non-compliance, the operator is liable for fines. These fines do not affect any ongoing compensation disputes or penalties to be paid to the government or consumers.

The Concession Contract pre-determines the value of fines. These vary, for example, from 5,000 Argentinean pesos if water supply is cut off for more than 12 hours or for discriminatory behaviour towards consumers, to 100,000 pesos if supply is cut off for more than 48 hours, or if consumers are cut off from the sewerage network without serious consequences. The income generated from these fines is deposited in a Penalty Fund (*Fondo Annual de Multas*) and distributed to consumers through tariff cuts in the subsequent price review. These mechanisms have had a positive effect on some service quality standards, such as replying to customer complaints (Alcázar et al., 2000).

Conditions necessary to implement regulatory mechanisms

The regulatory mechanisms that the government chooses should be guided by political, social, economic and technical factors. These mechanisms will only work under favourable conditions, which are briefly described below.

Regulatory accountability

The regulator should be accountable for its decisions. One way to ensure regulatory accountability is to appoint an overseer. In the Buenos Aires water concession, the Treasury Office (*Tribunal de Cuentas de la Nación*) is allowed under articles 84, 85 and 136 of the National Accounting Law (*Ley de Contabilidad de la Nación*) to examine the legality of regulatory decisions and the regulator's accounts (ETOSS, 2001c). This mechanism could be enhanced by the publication of the regulator, ETOSS's, accounts and the methodology/rationale for its decisions. Other measures to ensure regulatory accountability include the ability to appeal to both the government and the courts. According to Argentinean law (ETOSS, 2001b), both consumers and the operator can appeal to the government or a judicial court against any regulatory decision taken by ETOSS.

Independence

The independence of the regulator is essential in the case of long-term monopolies such as concessions. The water concession, in particular, should be key in making a positive contribution towards the social and economic well-being of consumers. In the case of the Buenos Aires water concession, people certainly expected an independent regulator.

In Buenos Aires, the level of independence of the regulatory system and the water regulator has been criticized in literature. Alcázar et al. (2000) concluded that the water regulator was negatively affected by successive political interventions into the regulatory process and contract renegotiations.

In the first instance, ETOSS's directors were political appointees from provincial and municipal government and their decisions were reportedly delayed because of 'partisan disputes' between the board members (Alcázar et al., 2000). In addition, some of ETOSS's decisions were overturned by the national government. During the 1998 tariff review, for example, the operator, *Aguas Argentinas S.A.*, proposed

an increase of 11.7 per cent but two of the ETOSS directors strongly disputed this. ETOSS later agreed an increase of 1.6 per cent but the government rejected its proposal and instructed a tariff increase of 4.6 per cent plus a further increase of 15 per cent between 2001–03, thus undermining the regulator's decisions and severely exposing its limited powers and independence (Loftus and McDonald, 2001).

Consumer perception of lack of independence of the regulator has undermined the credibility of the system and public opinion has fallen (Table 2). Table 2 shows that by 1997, 51.9 per cent of people had a negative impression of the water concession, while only 18.1 per cent said that the concession had had a positive impact.

Resources

Regulation does not come free and it is essential that adequate financial and human resources are available to the regulatory system so as to permit the regulator to carry out its tasks effectively. The system used to finance the water regulator in Buenos Aires involves the regulator retaining a percentage of tariffs (2.67 per cent). This avoids direct government funding that could jeopardize regulatory independence. Nonetheless, this mechanism could be further strengthened by the publication of the regulator, ETOSS's, accounts and by a periodic review of the regulatory budget so as to discourage over-budgeting that, in turn, could lead to regulatory opportunism and inefficiency.

Case 2. Chile

Background

Chile is located in South America, bordering Argentina, Bolivia and Peru. It has 13 regions. According to the WHO (2000), in 2000 Chile had an urban population of around 13 million with water supply coverage of 99 per cent and sanitation coverage of 94 per cent. In that same year, the rural population stood at around 2 million, of which 66 per cent had access to water supply services and 98 per cent had access to sanitation services.

The semi-divestiture of water utility assets—more often known as privatization—although more common in developed economies, was adopted in the Chilean water sector.

In 1998, the government of Chile decided to privatize one of its main public water companies, ESVAL. The following year it privatized the other, EMOS. The government kept a 35 per cent ownership and transferred 40 per cent to the private sector, with 10 per cent going to the employees and the remaining 15 per cent put on the stock market. *Inversiones Aguas Metropolitanas*, (a consortium that included *Aguas Barcelona* and *Suez Lyonnais*) bought 42 per cent of EMOS in 1999 (Urgaz, 1999). The government's vision is to privatize 55 per cent of water utilities, meaning that private water companies will eventually service 70 per cent of the population.

The reasons for these privatizations were linked to the utilities' inefficient allocation of resources and to the necessity for increasing these utilities' efficiency and the service quality they provide (ETOSS, 2001c).

The Chilean government recognized the importance of regulating the private sector and in 1990 created the water and sewerage industry regulator, *Superintendencia de Servicios Sanitarios* (SISS) (Chilean Law No.18.902, 27 January 1990). A new regulatory system was also created under the new law for water and

sanitation services (*Ley General de Servicios Sanitario, DFL 382*) (SISS, 2001). Under this law the SISS had to perform regulatory tasks such as:

- updating the water regulatory system and introducing amendments to service quality standards;
- setting and periodically reviewing water tariffs for both the public and private water utilities;
- investigating customer complaints;
- monitoring service quality and applying fines when minimum standards were not delivered;
- informing the public on each of the operators' performances; and
- monitoring and upgrading the utilities' development plans, etc. (SISS, 2001).

Regulatory mechanisms

The main regulatory mechanisms investigated in this case study covered information access, price and service/quality regulation.

Regulation of information

The regulator's goal was to evaluate service quality by comparing the services delivered in different regions of Chile with those in other countries.

According to Chilean law, providing it has proper authorization from a civil court judge, the water regulator can demand relevant information from representatives, directors or others persons or institutions connected with the private operator. With the information it collects, the regulator is also responsible for creating an information database to evaluate each operator's performance and to allow benchmarking (SISS, 2001). However, some of the experts interviewed during the course of this research acknowledged that at the time of the interviews there was no adequate database established.

The regulator also introduced a system of fines. Each operator can be fined if it denies access to information (50 tariff units) or provides inaccurate information (between 51 and 500 tariff units) (SISS, 1989; SISS, 1990; and SISS, 2001). Despite the introduction of these measures, SISS has been criticized for not being able to construct an effective database system that compiles sufficient and accurate information on the operators' performances.

Price regulation

The regulations prescribed the method for calculating tariffs. These tariffs were to reflect the real costs of providing water and sanitation services, and were based on a model that was used to calculate the long-term marginal costs of a simulated, efficient utility operator. In this way, the regulator would be able to calculate and provide incentives (Serra, 2000).

The water tariffs have two main components—a fixed charge (typically 20 per cent of the water bill) that covers the costs associated with connection, secondary network maintenance, and billing, and a variable charge that covers current and capital costs, which vary in the short and long term (Alfaro, 1997).

The regulations for water and sanitation service provision in Chile make great use of benchmarking, or the yardstick method, to compare the performances of operators. The regulator carried out tariff studies in order to formulate the characteristics of a **model operator**—a theoretical operator that provides water and sewerage services in an efficient manner under existing regulations. The model enabled the regulator to identify the operational and investment costs of an efficient operator and the tariff levels that would then reflect the real economic costs of an efficient operator.

By establishing the characteristics (for example, the operating costs, investment costs, tariffs, etc.) of the **model operator**, the regulator could then forecast what an actual water operator would have to spend in the long term in order to improve the water utility to an optimum level of performance. The water regulator could then adjust the water tariffs to those long-term marginal costs.

Concurrent to its adjusting tariffs to the long-term marginal costs, the operator also receives some return on its investment. The regulator provides an incentive for improvements by allowing the operator to temporarily retain any extra gains it derives by improving efficiency. Figure 3 provides a simplified illustration of the tariff determination process.

The regulator's review of water tariffs is set to take place every five years, or if and when any unexpected changes in the contract conditions occur (for example, an increase in demand, the provision of significant new information, etc.). The tariff review process starts fourteen to seventeen months before the end of the tariff cycle. At this time, SISS and the operator meet to discuss whether the tariffs should be revised on the grounds of operational costs, investments, inflation or macroeconomic factors. If the private operator has made excess (abnormal) profits, the regulator will try to pass back some of these profits to the customers through a tariff reduction. If the regulator and the operator are unable to reach an agreement, SISS appoints a panel of experts to determine the new level.

Once the tariff studies are complete, the regulator meets with the operator again to present the conclusions and recommendations of the experts and to again try to reach an agreement on the new tariffs. If they still cannot agree, an independent commission of experts will be appointed to carry out a similar study. The Commission's results are binding on all parties.

The initial tariffs were introduced in 1990 for a period of five years. During the second tariff review, which was carried out in 1995, tariffs were increased by 6 per cent and then remained constant until 1999 (Alfaro, 1997).

The process that was used in the tariff review of benchmarking using a model was without disagreement among the stakeholder, particularly the establishment and use of the **model operator** characteristics. It was difficult to get agreement with the private operators on what would be the cost characteristics of an ideal, efficient (model) operator, and this resulted in difficult negotiations with the operators. It should

also be noted that the regulator, SISS, has lower bargaining power and influence in Chile than the private companies who have greater political influence (Bitrán and Serra, 1998).

Service quality regulation

The regulations also prescribe the minimum level of services to be delivered. The regulator undertakes regular reviews to determine the current level of performance of the water utilities; it can then take appropriate action if necessary.

Conditions necessary to implement regulatory mechanisms

The conditions required for regulatory systems to work are accountability, independence and an adequate level of resources.

Accountability

According to the law for sanitation services (SISS, 1989), the President of Chile, through the Ministry of Public Infrastructure, is responsible for overseeing the water regulator's actions. The Ministry of Public Infrastructure oversees the technical and financial performance of the water regulator. Any complaints on regulatory decisions must be reported to the Appeals Court in Santiago, where they will be investigated. The water regulator is notified of complaints made against it. The Court then reaches a verdict on the complaint and its decision is final (SISS, 1989; SISS, 1990; and SISS, 2001).

Independence

The Ministry of the Economy has ultimate responsibility for approving water tariffs proposed by the regulator (SISS, 2001). As a result, the government *could* veto unpopular but justifiable tariff adjustments, but no evidence of this was found during the research.

The General Director of SISS makes key decisions without consulting a Board of Directors. The fact that the water regulator is frequently unable to penalize private operators for their non-compliance with the agreed investment plans shows that the water regulator lacks power and independence (Berg and Corton, 2000).

Resources

The Treasury Office (*Ministerio de Hacienda*) funds the water regulator (SISS, 1990). SISS presents its financial accounts to the Treasury Office, which agrees a new budget after reviewing them. Being dependent on the Treasury for funds may put pressure on the water regulator and could undermine regulatory independence.

Case 3. England and Wales

Background

England and Wales are part of the United Kingdom (UK), which is located in northern Europe. Together, England and Wales had a population of around 60 million in 1999 (UNDP, 2001 and WHO, 2000); 99 per cent had access to improved water resources at that time (UNDP, 2001).

In the late 1980s, the British government made a decision to privatize the water sector in response to the perceived need to improve an aged water infrastructure. The water sector at that time required extensive rehabilitation and also needed to attract investment in an appropriate timeframe so that it could meet new quality standards

Legislation to allow privatization of the water sector was introduced under the Water Act 1989. This allowed the privatization of water utilities, and in November 1989 ten water and sewerage companies were floated on the stock market. Further legislation, for example, the *Water Industry Act 1991*, *Competition Act 1998*, *Water Industry Act 1999*, and the *Draft Water Bill, November 2000*, was later introduced to strengthen and update the regulatory system to take account of new priorities.

The government established the water regulator, the Director General of Water Services (DGWS), under the Water Act 1989 to ensure industry compliance with regulatory requirements (Ofwat, 2000b). The regulator, DGWS, then created Ofwat to assist.

The DGWS's main duties are presented in Box 3.

Box 3: The water regulator, DGWS's, main duties

- To protect consumers from possible monopolistic behaviour.

- To set water tariff limits, thus restricting the revenue that companies can collect from water bills to an adequate amount.
- To set up independent regional Customer Service Committees to represent customers.
- To receive and investigate customer complaints.
- To promote the competition in the water sector.
- To promote the efficient use of water.
- To supervise and update the development plans agreed with the operator in order to guarantee that investment commitments and expansion plans are in the best interests of both users and operators.
- To initiate and then supervise the privatization process of publicly owned water and sewerage utilities.

Source: Ofwat (2001a, 2000b)

Regulatory mechanisms

The regulatory mechanisms discussed in this chapter cover three areas of the water regulatory system in England and Wales: information access; price regulation; and service quality control.

Information access

Ofwat receives information from a variety of sources—the regulated water companies, other regulatory agencies (the Environment Agency and the Drinking Water Inspectorate), customers, independent specialist consultants and experts. The most important source of information is the operators themselves, as they provide internal information that is crucial for monitoring their performance and reviewing tariffs (Ofwat, 2001g). The operators are obliged to provide the water regulator with an annual report called the June Return Report, which includes data and information on the performance of the private operator and

the service standards it provides (Jouravlev, 2000). The June Return Report covers the 12-month period up to the end of March. It includes information on areas such as:

- the operator's key outputs (pressures, interruptions, sewers flooding, etc.);
- responses to consumer queries and complaints;
- details of the operator's accounts (i.e. profit and loss accounts, operational costs, etc.); and
- financial (i.e. new assets, maintenance and depreciation, expenditure, etc.), and non-financial information (i.e. the population supplied, new connections, size of network, water sources, etc.).

(Jouravlev, 2000).

The licensed operators (there are private operators which, due to size or internal water use, are not licensed or otherwise fall outside economic regulatory control) must also provide Ofwat with an Annual Principal Statement. This outlines the tariffs that the operator proposes to charge in the following year, along with the justifications for those tariffs. To avoid possible manipulation of accounts by the operator, the water regulator submits the operator's information to qualified independent experts who examine it for quality and accuracy. The water regulator also makes any information that is not commercially confidential available to the public. According to one expert interviewed, the regulator has seen fit to categorize increasing amounts of information as non-commercially confidential; increasingly, companies have to argue the confidentiality case if they are to receive information protection.

The water utility regulatory system in England and Wales also puts a great deal of emphasis on information provided by consumers. There are 10 regional Customer Service Committees (CSCs) that represent consumer interests and provide feedback (Ofwat, 2001e). Ofwat also established the Ofwat National Customer Council (ONCC), to represent and protect customers' interests nationally and to advise the regulator, the DGWS, on customer interests (Ofwat, 2001b).

Price regulation

Like other regulators, Ofwat sets tariffs and reviews them periodically (Ofwat, 2000b).

The price regulation system in England and Wales ensures that the water companies' pricing schemes are in agreement with legislation. The system also promotes competition by assessing, comparing and publishing information on each private operator's performance (Ofwat, 1999, 1999a).

In England and Wales, the water regulator uses the price-cap or RPI-X mechanism to regulate tariffs (Burns and Estache, 1999; Terence, 1999). The retail price index (X) is adjusted for expected productivity gains; this allows the operator to finance investment plans while remaining efficient (Klein and Irwin, 1996).

Initially, the water licenses specified that prices be reviewed every ten years, but now it happens every five years. Prices may also be adjusted if there is justification to do so (see Box 4).

Box 4: Justifications for a price review

- To transfer past efficiency gains more quickly to customers; and to build scope for future efficiency improvements into the price limits.
- To create a framework where the costs of any new quality obligations can be met, if possible, without bills rising in real terms.
- To develop a framework where expenditure to correct imbalances in supply and demand is largely met by changes in the bills of those customers whose demand is increasing, not by all customers.

Source: Ofwat (1999)

Tariffs can be reviewed earlier if there are major changes. Recently, Ofwat proposed to include in the water licenses any new circumstances under which an extra tariff review could be carried out (Ofwat, 2001f). These circumstances are:

- if the private operator suffers adverse effects that could not have been avoided by careful management; or
- if the operator enjoys favourable effects that are not attributable to careful, prudent management; and
- if either of these change results in a variation of 20 per cent in the company's turnover.

A simplified illustration of the method used for the 1999 price review is provided in Figure 2 .

The first tariff review carried out in 1994 was criticized on the grounds that Ofwat underestimated the private operators' ability to reduce costs and then set price limits that allowed the water companies to make high profits (Green, 1997). As a result, the regulator decided, or was politically pressured, to lower price limits in the 1999 price review. The robustness of the regulatory mechanisms has also been called into question on the grounds that it fails to establish a proper mechanism for evaluating the water companies' efficiency. According to Ofwat (2001j), the capital expenditure of private operators for the year 2000–01 was 20 per cent lower (£700 million) than expected. Operators may have talked up their plans for investment so as to ensure higher water prices (PSIRU, 2001).

Service quality control

The regulatory system in England and Wales prioritizes service quality and has introduced several mechanisms, such as the Guarantee Standards Scheme (GSS), the June Return and the Customer Service Committees (CSCs), to monitor service quality standards and obtain redress for poor service. The regulator not only monitors each company's performance in terms of the service it delivers to customers, but also compares the performance of all the operators in the water sector to establish a minimum level of service quality that customers are entitled to expect (Ofwat, 2001i).

According to Ofwat (2001c), quality of service has gradually improved in some areas since PSP was introduced (see Box 5).

Box 5: Service quality improvement figures since PSP

- More than 99 per cent of billing queries were replied to within five working days.
- There has been a 10 per cent decrease in written complaints.
- More than 350,000 households have been metered.
- Eight companies answered more than 95 per cent of telephone calls within 30 seconds; 11 companies answered more than 90 per cent of calls within 30 seconds.
- There has been a 13 per cent decrease in properties with inadequate water pressure.
- 98.83 per cent of water quality tests met the required standards in 2000 (an increase of 0.01 per cent from 1999).
- There has been a slight decrease in properties at risk of flooding because of overloaded sewers.
- There has been an increase of customer compensation values under the GSS.

Source: Ofwat (2001c)

The regulation of service quality encompasses standards such as the reliability of services and replying to customer complaints, and inputs from the Drinking Water Inspectorate (i.e. regulation of water quality standards) and the Environment Agency (i.e. regulation of environmental standards). In cases of non-compliance by the private operators, the appropriate regulator takes action such as enforcing compensation payments and refunds, prosecuting the operator in question and/or enforcing service improvement measures.

Guaranteed Standards Scheme (GSS)

The Guaranteed Standards Scheme (GSS) is a customer compensation system that was introduced in 1989 to set standards of compensation in cases where operators fail to meet minimum standards (Ofwat, 2001h). The GSS does not preclude customers taking legal action against the private operator. It has been recently reviewed and updated.

June Return Report

The June Return Report is an important source of information on each water company's performance. It contains details of the services it has delivered to customers and is therefore a useful tool that the regulator can use to monitor minimum service quality standards.

Customer Service Committees

Customer Service Committees (CSCs) are local, independent water 'watchdogs' that represent customers in each region. CSCs were introduced as part of the Water Act of 1989. They investigate customer complaints and make the Director General of Ofwat aware of customers' concerns, including those that are about service quality (Ofwat, 2001e).

Conditions for implementing regulatory mechanisms

This section investigates whether conditions such as accountability, independence and adequate resources are present in the regulatory system.

Regulatory accountability

The water regulation system in England and Wales places considerable importance on setting mechanisms that guarantee that the water regulator is accountable for its decisions, and at the same time that operators and consumers are given an effective system to appeal against the regulator's decisions. There are three main institutions overseeing the regulator: the Competition Commission; Select Committees; and the Courts. The Minister responsible for the water sector has the power to overrule any decision taken by the regulator and is able to stop any license amendments, but these powers have never been used (Green, 1999).

Competition Commission

The Competition Commission took over from the Monopolies and Mergers Commission in April 1999. It is composed of around thirty part-time members with expertise in fields such as law and business, along with full-time civil servants. The Competition Commission investigates license amendments or proposals. If there is disagreement between the operators and regulator, the Competition Commission looks at the evidence; the Commission's decision in relation to license amendments is final.

Select Committee

The Select Committee is composed of 10 Members of Parliament, with political party representation proportional to the number of seats that party holds in the House of Commons. No member of the Cabinet

or Shadow Cabinet can be a member of a Select Committee. The Committee is entitled to appoint expert advisers on any particular issue that it is investigating.

Unlike the Competition Commission, the Select Committee can initiate its own enquiries. Its recommendations are not binding on the regulator or the private operators, but are very influential on the public.

Courts

Under the Water Act of 1991, individuals or companies have the right to present to court a complaint on decisions taken by the government or any government department, and this includes the water regulator. The investigation process carried out by the court is called a judicial review. It will not normally investigate the substance of a regulatory decision, but rather whether or not the procedure that was followed in order to arrive at a particular decision met with minimum standards. According to Green (1999), the only time that the judicial review will overrule a regulatory decision on a substantial matter is if that decision breaches the law.

Independence

It is difficult to design a regulatory system that is totally independent of political influence. Nonetheless, the research carried out for this report did not encounter any serious instances where the England and Wales water regulatory system lacked independence or where political influences affected its decision-making processes.

Resources

Ofwat's funding comes from operating fees that the private operating companies have to pay (Ofwat, 2001c). Ofwat's operating costs are represented in Table 3 and show an increase of £5.9 million since 1990 (Home Treasury, 2001). This increase can be explained by a corresponding increase in Ofwat's staff, which has risen by 115 employees since 1990.

Conclusions and Recommendations

Main regulatory problems identified by experts

Following their analysis of the three case studies, complemented by their interviews with the panel of experts (their opinions were not restricted to the case studies presented), the authors were able to identify a number of generic areas of improvements in the regulatory systems. These included:

- information asymmetries due to poor database and information access;
- lack of credibility with potential private operators;
- lack of true independence;
- lack of technical capacity;
- lack of independence from government ministries and the regulated industry itself;
- lack of experience and resources; and
- an inefficient industry structure.

Theory and practice

It is one thing to design an efficient regulatory mechanism, but a very different exercise to actually implement that mechanism. If regulation is to work effectively, there needs to be a culture of co-operation and partnership, one that respects the spirit of the agreement. Adherence to the contract entirely on a basis of enforcement is a very costly option.

Costs and benefits

There is a cost to any benefit. The cost of regulation has to be weighed against the benefits accrued from that regulation. If regulation is to be effective and efficient, governments need to develop agreed monitoring indicators and mechanisms—not only to monitor costs and benefits, but also to act swiftly on emerging problem areas.

Capacities

The degree of sophistication of the system should reflect the capacity or the potential capacities on the ground. There is a tendency for governments to develop 'ideal' mechanisms, which either do not work or become very expensive to implement. In addition, those governments that initiate PSP are often unable or unwilling to provide the resources necessary to implement sophisticated regulatory mechanisms.

Managing change

In any country, it is unlikely that the conditions under which the PSP agreements have to operate will remain fixed. A government who decides to privatize its water and sanitation sector should realize that there is always a degree of uncertainty. The need to deal with that risk should be the basis of the change management strategy within its regulatory mechanism. There may be a case for more frequent review periods in the regulatory systems.

Perception management

Many customers perceive any increase in tariffs as a means by which the private sector is increasing its profits. In some cases that may be true, but in others different levels of service are being provided. Where this is the case, it is unrealistic and unjustified to compare current tariffs with those charged by the public sector before privatization, because at those prices provision was not sustainable. Unfortunately, tariff reviews rarely allow users to associate an increase in tariffs with an increase in quality. Users are generally willing to pay for better services provided that they are able and/or have the choice to do so.

Information dissemination: accountability and transparency to the users

Users need to be informed about the activities of both the private sector and the regulator if the system of regulation is going to develop public credibility. Customers also need a quick, cheap and simple system through which they can complain about inadequate services. Expecting people to resort to the courts will be unpopular; such processes can be lengthy, complicated and expensive. From the beginning, customers should be given information about the level of service they can expect and what to do if they do not get it.

Client satisfaction

Just like in any other business, client satisfaction is crucial. Identifying what drives satisfaction and developing indicators to monitor and improve satisfaction levels is crucial for the success of PPP and its regulation.

Politics

And why not? It is perfectly legitimate to build public benefits into a PPP agreement and enforce these by regulations that are supported by political will and governance tools. However, political interference in the process for the benefit of a few in the short term is needs to be avoided. One way to avoid such political interference is to make the political instruments that are part of the regulatory process completely transparent, so that users are aware of what politicians are up to.

Regulatory Culture

The role of regulator as an outsider or 'whistle blower' has its limitations. It is expensive and the regulator does not have the muscle to show the 'red card'. There is a need for governments to re-engineer the regulator's role so that it is more like a partner, urging and sometime forcing the parties to behave in a manner that produces a win-win situation. This new role should take into account the specific political, social and economic factors and the available and potential resources on the ground.

Appendix

Table 1. *Aguas Argentinas S.A* capital stock ownership

Investor	Stock ownership (%)
<i>Suez Lyonnaise des Eaux</i>	34.73
<i>Aguas de Barcelona</i>	25.01
Employee stock ownership plan (PPP)	10
<i>Banco de Galicia</i>	8.26
<i>Vivendi</i>	7.55
<i>Aguas Inversora</i>	5.2
International Finance Corporation	5
Anglian Water	4.25

Source: <http://www.aguasargentinas.com.ar>

Table 2: Public opinion of the Buenos Aires water concession

Opinion	Pre-privatization					Post-privatization				
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Positive	25.5	59.4	38.3	39.0	26.4	36.4	29.9	24.3	16.7	18.1
Neutral	20.6	15.9	24.4	26.5	25.0	25.6	29.2	31.6	27.7	26.9
Negative	38.6	16.4	34.4	29.3	43.6	33.3	36.2	42.7	52.2	51.9
No opinion	15.4	8.4	3.0	5.3	5.0	4.7	4.7	1.4	3.4	3.1

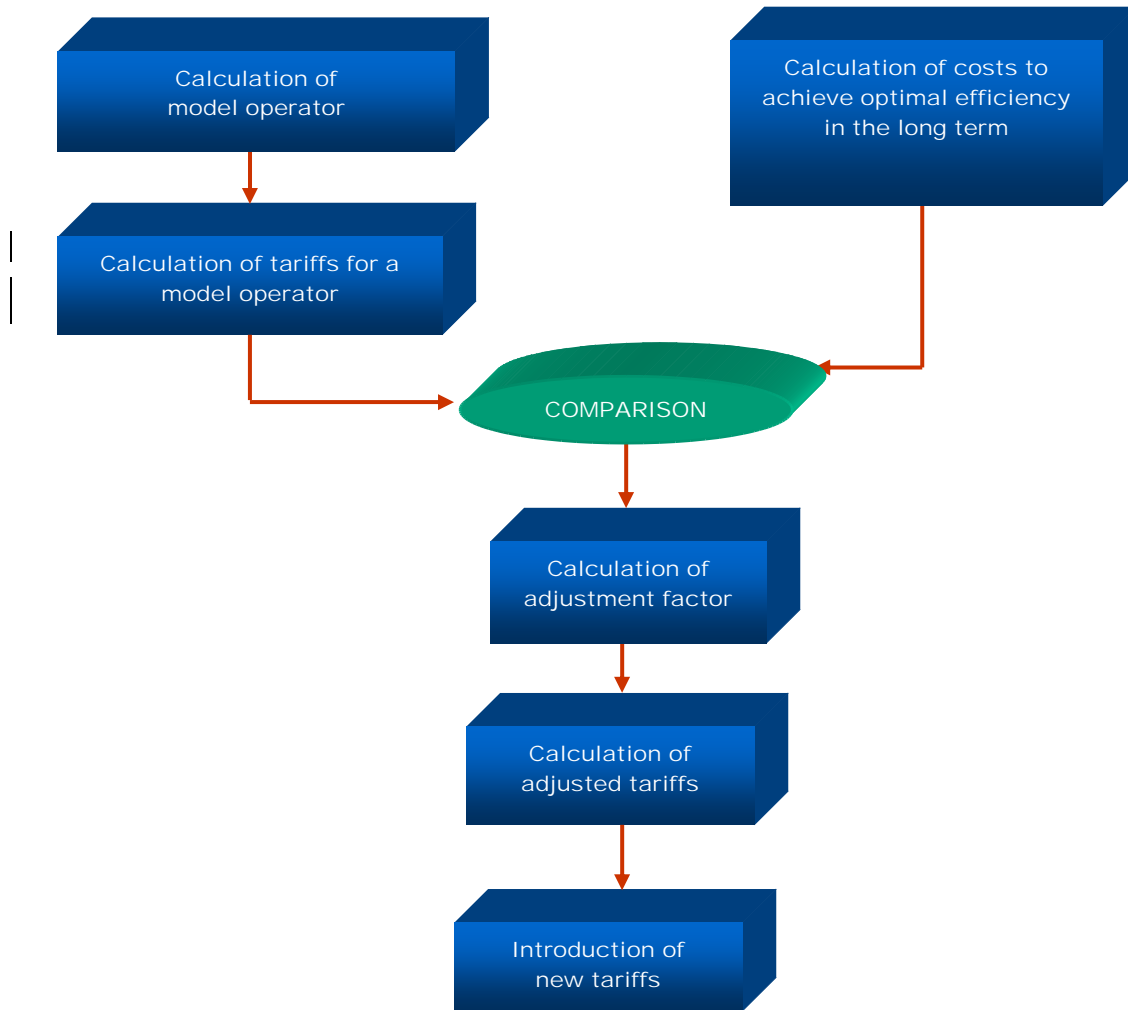
Source: *Centro de Estudios Unión para la Nueva Mayoría.*

Table 3. Ofwat's operation costs and numbers of staff

Year	Operating costs (£ million)	Number of staff
1990-91	4.0	112
1991-92	5.3	132
1992-93	5.7	140
1993-94	8.1	156
1994-95	9.1	179
1995-96	8.9	194
1996-97	9.3	190
1997-98	10.4	209
1998-99	9.7	234
1999-00	10.9	226
2000-01	10.9	227

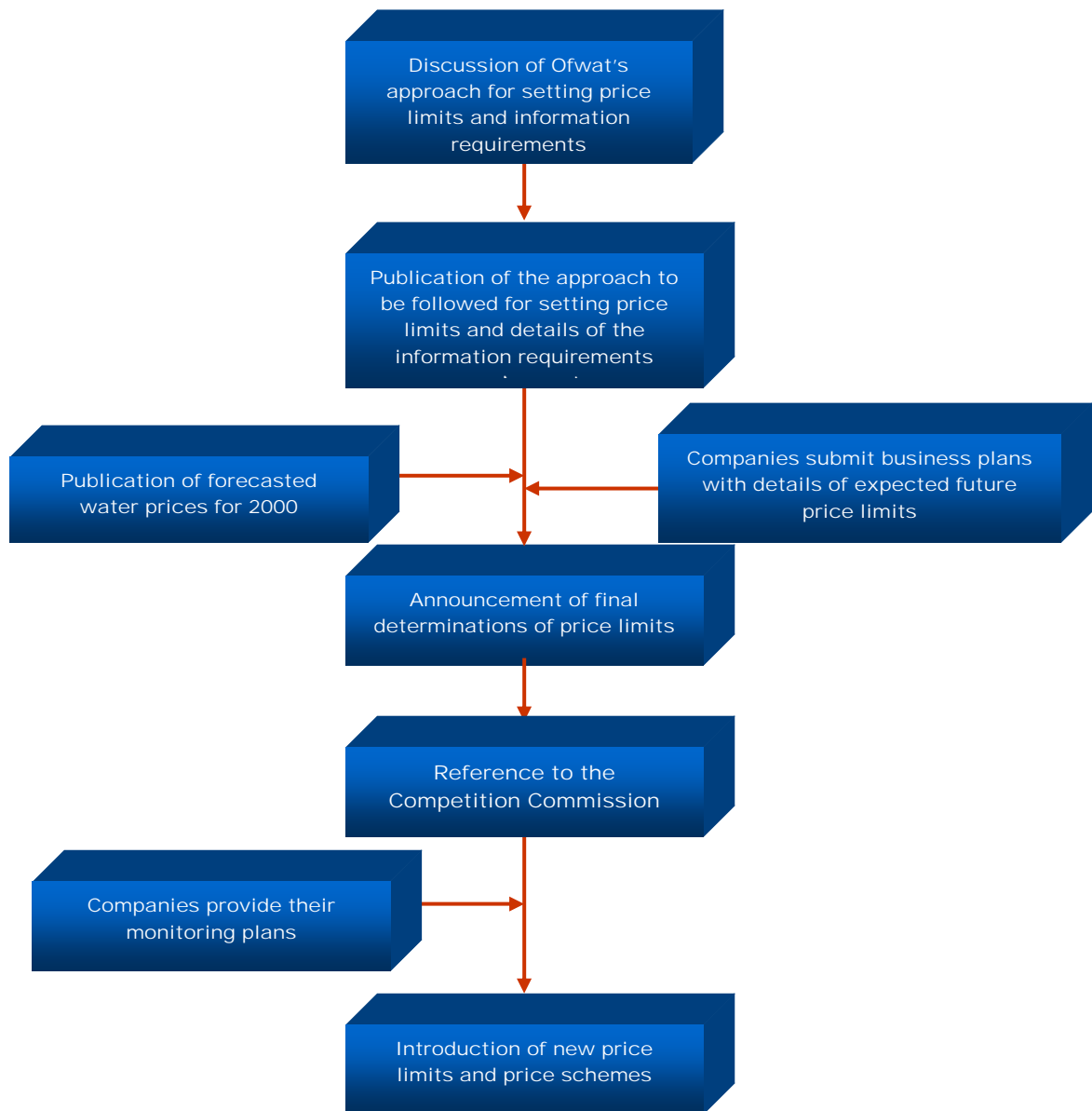
Source: Home Treasury (2001)

Figure 1: Simplified illustration of the tariff determination process



Source: SISS (2001)

Figure 2: Methodology for the 1999 tariff review



Based on: Ofwat (1999)

References

- Abdala, M. (1996) 'Welfare Effects of Buenos Aires' Water and Sewerage Services Privatization'. Unpublished report. World Bank: Washington DC.
- Alcázar, Lorena and P. Brook-Cowen (1996) *Institutions, Politics, and Contracts: Private Sector Participation in Urban Water Supply*. Research Proposal. World Bank: Washington DC.
- Alcázar, Lorena *et al.* (2000) *The Buenos Aires Water Concession*. World Bank: Washington, DC.
- Alfaro, Raquel (1997) *Institutional Development of the Urban Water and Sanitation Sector in Chile*. UNDP Working Paper. World Bank: Washington DC.
- Anon (2000) *Latin America Press*. Vol 32 No 7.
- Artana, Daniel, Fernando Navajas and Santiago Urbiztondo (1998) *Regulation and Contractual Adaptation in Public Utilities—The Case of Argentina*. Inter-American Development Bank: Washington DC.
- Berg, Sanford and Maria Luisa Corton (2000) *Infrastructure Management: Applications to Latin America*. Public Utility Research Center, University of Florida.
- Bitrán, Eduardo and Pablo Serra (1998) 'Regulation of private utilities: The Chilean experience', *Economic Series No 32*. University of Chile: Santiago.
- Burns, Phil and Antonio Estache (1999) *Infrastructure Concessions, Information Flows, and Regulatory Risk*. Public Policy for the Private Sector No 203. World Bank: Washington DC.

CIA (2001) Central Intelligence Agency homepage: <<http://www.odci.gov/>> (1 August 2001).

Dumol, Mark (2000) *The Manila Water Concession: A Key Government Official's Diary of the World's Largest Water Privatization*. World Bank: Washington DC.

ETOSS (*Ente Partidario de Obras y Servicios Sanitarios*) (2001a) Buenos Aires *Concession Contract*. <<http://www.etoss.org.ar/contrato.htm>> (04 May 2001).

ETOSS (*Ente Partidario de Obras y Servicios Sanitarios*) (2001b) Buenos Aires *Regulatory Framework*. <<http://www.etoss.org.ar/historia.htm>> (04 May 2001).

ETOSS (*Ente Partidario de Obras y Servicios Sanitarios*) (2001c) ETOSS homepage. <<http://www.etoss.org.ar>> (04 May 2001).

ETOSS (*Ente Partidario de Obras y Servicios Sanitarios*) (2000d) *Audiencia Publica*. <<http://www.etoss.org.ar/contenidos.htm>> (10 June 2001).

Ferro, Gustavo (2000) *El Servicio de Agua y Saneamiento en Buenos Aires: Privatización y Regulación*. CEER: Buenos Aires, Argentina.
<http://uade.datamarkets.com.ar/econ_fin/downloads/serie%20textos%2017.pdf>

Green, Richard (1997) *Has price cap regulation of UK utilities been a success?* Public Policy for the Private Sector No 132. World Bank: Washington DC.

Green, Richard (1999) *Checks and Balances in Utility Regulation—The UK Experience*. Public Policy for the Private Sector No 185. World Bank: Washington DC.

Home Treasury (2001) *External Efficiency Review of Utility Regulators*. Home Treasury: London.

Jouravlev, S. Andrei (2000) *Water utility regulation: issues and option for Latin America and the Caribbean*. Economic Commission for Latin America and the Caribbean (ECLAC): Santiago, Chile.

Klein, Michel and Timothy Irwin (1996) *Regulating water companies*. Public Policy for the Private Sector No 77. World Bank: Washington DC.

Ofwat (Office of Water Services) (1998) *Guaranteed standards scheme*. Information Note No 38. Ofwat: UK.

Ofwat (Office of Water Services) (1999) *The 1999 Period Review*. Information Note No 38. Ofwat: UK.

Ofwat (Office of Water Services) (1999a) *1999 Periodic Review: Information Requirement and Monitoring Plan For 2000–2005*. Ofwat: UK.

Ofwat (Office of Water Services) (1999b) *Compensation for customer—A review of the Guarantee Standards Scheme*. Ofwat: UK.

Ofwat (Office of Water Services) (2000a) *Reports, auditors and valuers*. Information Note No 28. Ofwat: UK.

Ofwat (Office of Water Services) (2000b) *Privatisation and the history of the water industry*. Information Note No 18, revised. Ofwat: UK.

Ofwat (Office of Water Services) (2000c) *Serviciability of the water and sewerage networks in England and Wales up to March 1999*. Information Note No 35. Ofwat: UK.

Ofwat (Office of Water Services) (2001a) Office of Water Services Home page. <<http://www.Ofwat.gov.uk/>> (30 May 2001).

Ofwat (Office of Water Services) (2001b) *Ofwat Forward Programme 2001–2002 and Strategic Issues 2004–2005*. Ofwat: UK.

Ofwat (Office of Water Services) (2001c) *Levels of Service for the water industry in England and Wales 2000–01*. Ofwat: UK.

Ofwat (Office of Water Services) (2001d) *Tariffs structure and charges 2001–2002*. Ofwat: UK.

Ofwat (Office of Water Services) (2001e) *Protecting the interests of water customers*. Ofwat: UK.

Ofwat (Office of Water Services) (2001f) *Ofwat proposes changes to water companies licences*. Press Note No 39. Ofwat: UK.

Ofwat (Office of Water Services) (2001g) *Information for regulation and the June Return*. Information Note No 1, revised. Ofwat: UK.

Ofwat (Office of Water Services) (2001h) *Guaranteed Standards Scheme*. Information Note No 4 revised. Ofwat: UK.

Ofwat (Office of Water Services) (2001i) *Comparing company performance*. Information Note No 5, revised. Ofwat: UK.

Ofwat (Office of Water Services) (2001j) *Financial performance and expenditure of the water companies in England and Wales, 2000–2001*. Ofwat: UK.

Orwin, Alexander (1999) *The Privatization of Water and Wastewater Utilities: An International Survey*. Environment Probe.

<<http://www.environmentprobe.org/enviroprobe/pubs/ev542.html>> (10 July 2001).

Pirez, P (1998) *The Management of Urban Services in the City of Buenos Aires. Environment and Urbanisation* Vol 10 No 2.

PSIRU (Public Services International Research Unit) (2001) *Ofwat exposes UK water companies' gaming and underperformance*. PSIRU New Item 4636. PSIRU: Greenwich, UK.

Serra, Pablo (2000) *Subsidies in Chilean Public Utilities*. Economy Series No 70. Department of Industrial Engineering, University of Chile.

Siôn, Jones (undated) *Comparatively Poor? A Comment on the OFWAT and OFGEM Approaches to the Assessment of Relative Efficiency*. National Economic Research Associates (NERA): London.

SISS (*Superintendencia de Servicios Sanitarios*) (1989) *Ley General de Servicios Sanitarios, Decreto Ley N° 382 de 1988 (General Law for Sanitation Services, Decree of the Law N° 382 of 1988)*. Superintendencia de Servicios Sanitarios (SISS): Chile.

SISS (*Superintendencia de Servicios Sanitarios*) (1990) *Ley de la Superintendencia de Servicios Sanitarios ley 18.902 (Law for the Regulator of Sanitation Services law 18.902)*. Superintendencia de Servicios Sanitarios (SISS): Chile.

SISS (*Superintendencia de Servicios Sanitarios*) (2001) *Superintendencia de Servicios Sanitarios Homepage* <<http://www.siss.cl/>> (7 May 2001).

Terence, Lee (1999) *Water management in the 21st century: The allocation imperative*. Edward Elgar: UK.

UNDP (United Nations Development Program) (2001) *Human Development Report 2001*: <<http://www.undp.org/hdr2001/>> (08 July 2002)

Urzaiz, Cecilia (1999) *Access to Regulated Utilities in Latin America*. World Institute for Development Economics Research.

World Health Organization (2000) Global water supply and sanitation assessment 2000 Report, WHO, Geneva, Switzerland.