# Defining Economic Regulation for the Water Sector

## Explanatory Notes on Key Topics in the Regulation of Water and Sanitation Services

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# 1 Overview

***There is some confusion over what regulation is, and what it can do.***

In the past decades, water sector[1] reforms worldwide have focused attention on regulation of the sector. But is it not always clear what is meant by 'regulation', or which problems regulation is able to solve. Sterile debates have raged on topics such as whether regulation by contract is or is not 'regulation'. Some assert that regulation is not possible without a regulator, and define regulation as whatever the regulator does. Others use 'regulation' to mean almost any form of government control of the water sector, and assume it to be the answer to any water sector problem.

***This note aims to provide clarity …***

This is the first in a series of notes designed to bring greater clarity to economic regulation of the water sector. This note's role is simply to define what economic regulation in the water sector is, and what it is not. We need clarity on this point first, so that later notes can address how to design economic regulatory regimes effectively.

***… in definitions***

Economic regulation is best thought of as the legal controls on water providers intended to overcome the problem that water is an essential, monopoly service.

This allows a "core definition" of economic regulation as

> *"the rules and institutions which set, monitor, enforce and change the allowed tariffs and service standards for water providers".*

The note then explores how other closely related functions, such as controlling asset condition, can usefully be considered part of economic regulation in some cases. It also defines things that definitely are **not** regulation, such as policy, ownership, governance and coordination in the sector.

# 2 Defining Economic Regulation in the Water Sector

***Regulation is not just 'what regulators do'.***

We start by defining economic regulation. One way to do this would be to survey what regulators around the world do, and to describe that. However, this would be unhelpful for two reasons:

- First, it is precisely the absence of a ready consensus on what constitutes appropriate regulation that motivated this note. Hence, a descriptive approach would provide little guide to

[1] We use the phrase 'water sector' to refer to the provision of water services, and also the collection, treatment and disposal of wastewater

good practice.

- Second, such an approach would confuse regulatory rules with the organizations charged with making and enforcing those rule. Regulation can be implemented through a variety of organizations, and is more than just 'what regulators' do.

For example, if we observe that ETOSS, the water regulator in Buenos Aires claimed the right to direct particular investments by the utility, while in Azerbaijan the Tariff Council does not direct investments, but does set tariffs, this tells us little about regulation is or should be.

***We need a definition which guides good policy***

Our objective is an 'instrumental' definition – that is, a definition which makes it easy to develop regulation which plays an appropriate role in water sector reform. Such a definition starts with and understanding of the problems economic regulation should be used to solve, and of the differences between regulation and other interventions which could be used to solve those problems. In developing such a definition, we need to consider both "economic" and "regulation".

## 2.1 'Economic' Regulation Addresses Monopoly Power

***Economic regulation is about stopping monopoly abuse***

Economic regulation is needed to address the problem of natural monopoly in the water sector. In a competitive market, customers can choose between suppliers, so suppliers try to offer the products and services customers want. Competition between suppliers keeps the prices charged in line with costs. For example, in some countries bread is an essential, but any baker which provided poor quality or over-charged would soon lose business to his competitors. Equally, a baker who under-charged would also lose money, and have to raise prices or go out of business. In most markets, competition ensures that provides over what customers want, and charge a price which reflects efficient costs.

***Water utilities are monopolies, and can provide bad service …***

Water utilities are natural monopolies. This means customers cannot choose between competing suppliers, so there is no competitive pressure to ensure they provide the services customers want.

***… and charge prices well above costs …***

Water is generally worth a lot more than it costs to supply. In other words, the value of water piped to the premises is so great, and the cost of alternatives so high, that customers are often willing to pay several times the efficient cost of the service, rather than go without.

***…either to make profits or cover inefficiencies***

Left to themselves, private providers could take advantage of this to make high profits at the expense of consumers. Government-owned providers might also take advantage of consumers by charging too much, and would typically dissipate the excess charges in inefficiencies such as low labor productivity or corruption

***Providers can also charge too little, which sounds good…***

For a long time economic regulation focused on private providers in developed countries, where the concern was that the provider would charge too much. The tools of traditional regulation are therefore largely concerned with stopping prices from rising too high. In developing countries, however, we often observe that publicly owned providers charge too little.

***but isn't***

Charging below cost for water services is intended to benefit consumers, but is generally counter-productive. When tariffs are below cost, the provider must either rely on government subsidies or cut back on service, maintenance, and investment.

Subsidies are seldom large and reliable enough to allow a provider to function at the level customers want. Even if subsidies are provided, they tend to undermine the customer-focus of the provider, without necessarily promoting equity (since water customers and tax-payers are often the same people).

More commonly, low tariffs simply result in poor service, asset deterioration, and an inability to invest to meet growing demand. This imposes costs on people which usually far exceed any benefits from the low tariff. For these reasons, Governments in both developed and developing countries have adapted regulation so that it can help to bring tariffs up to a level which covers reasonable costs, in addition to its traditional role of stopping tariffs from rising above that level.

***Economic regulation aims to ensure providers offer good service at reasonable prices***

In other words, economic regulation can usefully be thought of as mimicking the pressures that competition provides in other markets. That is, it should require providers to offer services their customers want, and to charge reasonable tariffs. Reasonable tariffs, in this sense, are tariffs which are enough to cover the efficient cost of providing the service, including allowing a reasonable return on capital employed.

## 2.2 Economic Regulation *versus* Regulation Generally

***There are other***

We take regulation to mean legal restrictions on the normal

***problems, beside monopoly abuse, which regulation can tackle …***

freedom of operation of people and enterprises. Governments use regulation in pursuit of many objectives, not just control of monopoly power. In developing regulatory regimes it is helpful to distinguish between economic and other types of regulation, including:

- **Environmental**. Water providers and other businesses have little natural incentive to care about the environment. They may over-abstract water resources, or discharge untreated pollutants. Environmental regulation can stop this. In some countries, such as the UK, all abstraction from, and discharge too, the environment is controlled by the Environmental Protection Agency, while in the other countries, there are specific controls which apply only to the water utility
- **Safety**. Even in competitive markets, information problems may prevent consumers from telling which services are safe and which are not. Governments often impose product safety standards to combat this problem. For example, food safety standards impose purity requirements on bread and other foods, just as drinking water standards can be used to ensure that water is safe to drink
- **Consumer Protection**. Similarly, governments may regulate for other forms of consumer protection – such as arrangements for handling complaints – both in monopoly and competitive markets. In Barbados, the Fair Trading Commission deals with customer complaints against all businesses, and also regulates utilities. In other countries, for example Jamaica, the utility regulator deals only with complaints against utilities
- **Social Objectives**. Finally, Governments may regulate for social objectives, to ensure that service is available to certain groups. For example, some countries limit the information insurance companies can use in assessing risk, as a way of ensuring that high risk, disadvantaged groups can get insurance. In the water sector, regulation of coverage levels and tariff structures may be done to address monopoly problems, or for social objectives, essentially redistributing benefits from one group of customers to another.

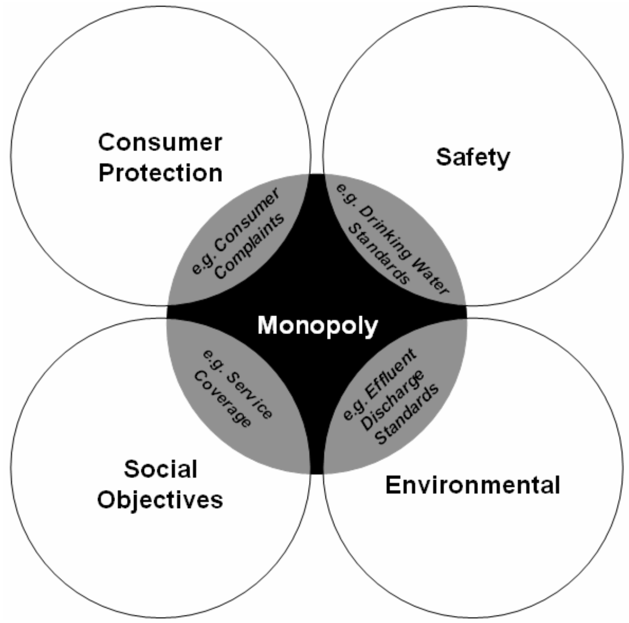
***And the boundary between economic and other forms of regulation can be blurred***

As Figure 2.1 shows, economic regulation overlaps with other areas of regulation, making the boundaries somewhat unclear. The 'core' – the area without the overlaps – is a narrow definition of economic regulation as simply setting, monitoring and enforcing rules on tariffs and service quality – in particular, pressure and reliability.

In the blurred area around the core, a choice is needed as to whether a particular regulatory function should be considered part of economic regulation, or dealt with in another way.

Table 2.1 lists many of the common 'overlap' areas, and provides the arguments for and against treating them as economic regulation. The right approach will differ from country to country, and depend on the general regulatory regime, levels of organizational capacity, and the types of problems which need to be addressed.

**Figure 2.1: Defining Water Sector Economic Regulation**




*Source: Castalia*

**Table 2.1: Economic Regulation and Other Policies and Instruments**

| Regulatory Function | Is this Economic Regulation? | |
|---|---|---|
| | Yes | No |
| Controlling drinking water standards | Essential part of the service specification | Health issue, best dealt with by health authorities and experts |
| Effluent discharge standards | Essential service specification, for wastewater services | Environmental issue, best dealt with by environmental authorities |
| Monitoring the utility's response to consumer complaints | Monopolies have little incentive to treat customers well<br>Complaints on billing and service standards can provide information for monitoring utility performance. | Helping consumers deal with merchants is an economy-wide function, and need an economy wide response, such as a Consumer affairs bureau for all sectors |
| Service coverage targets | Monopolies may limit service by charging high prices, so regulation is required to make them offer widespread service | Extending service to unserved areas is a policy decision involving social objectives and subsidies |
| Controlling tariff structure (in addition to the average tariff) | Monopolies may price-discriminate in unjustified ways or set inefficient tariff structures | Tariff structure may be used to ensure cross-subsidies and achieve social objectives |
| Input-based controls such as:<br>▪ specifying asset conditions<br>▪ specifying efficiency or performance targets such as NRW or staff per connection ratios | To keep costs at efficient levels, and to ensure that service is sustainable, operating efficiency and asset serviceability may need to be controlled directly. | The provider should be given the incentives to provide good service at reasonable cost, and then investment and operating decisions left to provider management |

## 2.3 Economic Regulation *versus* Other Interventions

***Economic regulation needs to be distinguished from other government interventions***

Governments have a range of tools they can use to limit monopoly power, and to achieve social, environmental, safety and consumer protection objectives. These include:

- **Ownership.** Governments can own water service provider, and achieve their desired objectives by telling them what to do
- **Fiscal incentives.** Governments can influence the actions of water providers through subsidies and tax incentives. For example, governments can offer subsidies for extending service to poor households
- **Regulation.** Governments can use the power of the law to instruct water providers to do certain things, and enforce these instructions through penalties and other forms of compulsion.

It is not unusual for governments to use all three tools at their disposal. In many countries, governments own water and sanitation utilities because they believe that ownership will enable them to get these utilities to implement public policy. But increasingly, governments have also recognized that their ownership influence over public utilities is limited, and that it is more efficient to run such utilities as commercial organizations. Hence, governments regulate both publicly and privately owned utilities. For example, the Government of Victoria in Australia recently brought all water providers in the State under the jurisdiction of the Essential Services Commission, even though the water providers are publicly-owned organizations. Finally, both public and private utilities may receive subsidies to pursue social rather than commercial objectives.

***Water sector reform requires action in several areas, but only some of these are regulatory …***

This distinction between regulation and other instruments available to the government already throws some light on the debate over economic regulation. For example, it is clear that exercising control over a water provider through ownership and appointment of Board members and senior managers does not constitute regulation. In fact, regulation is, in a sense, a substitute for control through ownership. In other words, regulation is applied to water providers which may be expected to pursue their own, rather than the government's objectives.

The distinction between different policy instruments also recognizes that governments wear many hats. As an asset owner, the government may be interested in earning the highest return. But as the representative of the public, it may want to ensure that consumers are protected from the effects of monopolies. Hence, governments, as owners, may set water utilities fully commercial objectives, but regulate them to achieve public policy objectives.

***… to design good regulation, we need to recognize when something is not regulation***

We conclude this definition by highlighting what economic regulation is NOT:

- ***Policy***: water policy defines the 'ends and means' for the sector. That is, it defines sector objectives and principles, and sets out who should do what to achieve those objectives. The extent to which consumers or taxpayers should pay for water services and infrastructure is a policy decision, as is the ownership of the providers, and the general strategy for controlling tariffs and service standards
- ***Ownership, Service Provision and Governance***: Water provider performance is driven largely by three things: who owns the water assets (ownership), who is responsible for delivering service (service provision), and how the owner exercises control over the utility's management (governance). In most developing countries water utilities and assets are owned by the government. The government may retain responsibility for service provision, or transfer it to a private provider. A government may establish good governance

procedures by exercising effective control over the utility through a well-functioning Board. Getting these three things right is critical to sector performance. They need to align with the regulatory design, but they are not themselves regulation.

- ***Coordination***: In addition to administering the water sector, and defining and implementing sector policies, governments have the task of coordination. This involves ensuring that policy decisions and implementation plans are consistent, managing input from the various bodies involved in water sector activities and coordinating water development with other public expenditure priorities. The regulatory regime needs to be coordinated with other interventions, but coordination is not regulation.

# 3 Summary

To sum up, economic regulation in water involves the setting and enforcement of rules to address the problem of monopoly in the water sector.

This produces a 'core' definition of economic regulation as:

> *"the rules and institutions which set, monitor, enforce and change the allowed tariffs and service standards for water providers".*

It may be useful to include other functions in our definition of economic regulation. Controlling: drinking water quality; effluent discharge; customer service; coverage and asset condition may to some extent be a reaction to a problem of monopoly, and therefore appropriately come under the heading of economic regulation. However, controls in these areas may address wider concerns, such as social and environmental objectives. Whether or how these issues should be integrated with the system of economic regulation needs to be decided case by case, based on the objectives, existing regulations and organizational capacities in the country concerned.

Regulation is definitely distinct from policy, governance, ownership and subsidy arrangements in the water sector. Successful water sector reform may require action in all these areas, but planning and implementing subsidy regimes, or changes in ownership, is quite distinct from regulation.

Reform will be more successful if the definitions of the various reform instruments are kept separate. Then the interrelationships between regulation and the other reform instruments can be examined more clearly, and the right mix selected to achieve sector objectives.