



**Water Regulation:
Getting the Basics
Right**

**Topic I: Defining
Economic Regulation**

**OOCUR Conference, Nassau, Bahamas
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1 Overview

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

In the past decades, water sector¹ 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 an 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

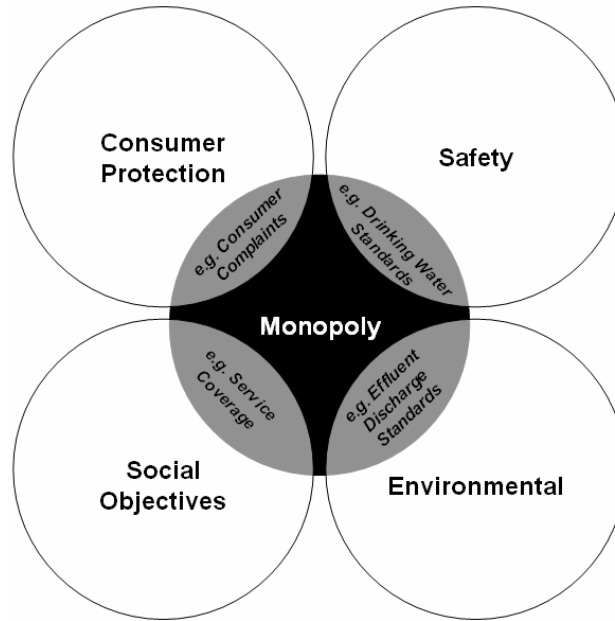
As Figure 2.1 shows, economic regulation overlaps with other areas of regulation, making the boundaries somewhat unclear. The ‘core’ – the area without the overlaps – is a narrow definition of economic regulation as simply setting, monitoring and enforcing rules on tariffs and service quality – in particular, 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 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: <ul style="list-style-type: none"> ▪ specifying asset conditions ▪ 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.



**Water Regulation:
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Right**

**Topic II: Designing
Economic Regulation**

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1 Overview – Steps in Good Regulatory Design

This note provide a framework for design of economic regulation

We know that regulation in the water sector is important. However, we sometime struggle with what regulation is, what problems it can solve, and how to design effective regulatory systems which will really work.

... consisting of simple logic steps.

The note outlines a simple, high level set of steps which can help with designing economic regulation in many countries:

- first, define the problems and objectives in the sector
- second, see if regulation is well suited to the objectives
- third, define the specific regulatory functions needed to achieve those objectives
- fourth, decide which legal instruments are best suited to embody the regulatory rules, and which organizations are best suited to perform the regulatory functions.

This will generally be a better approach than importing regulatory models designed for other countries

Although these steps are simple, they are often not followed. Rather, policy-makers short-circuit the logical process by saying “we know we need regulation, so we had better create a regulator” and importing regulatory regimes from elsewhere. The resulting regime may be doubly ill-adapted, in the sense that it is not designed to solve the problems the country really has, and also does not take into account the political, legal and organizational cultures and capacities in the country.

... and allow for regulatory designs more suited to each country’s needs and traditions.

This note shows that well-designed regulatory regimes can use widely varying legal and organizational arrangements to achieve similar regulatory objectives. This suggests that regulatory design needs to pay more attention to local circumstances and traditions than has been done in the past.

2 Steps in Designing Economic Regulation

Because regulation is often a key component of water sector reform, it is sometimes treated as an end in itself. In an effort to ‘check the regulation box’, governments may pass regulatory laws and create regulatory bodies without clearly working through the purpose of economic regulation, how it fits with other issues and institutions in each country, and the best way to deliver this type of regulation within each country’s legal and institutional culture.

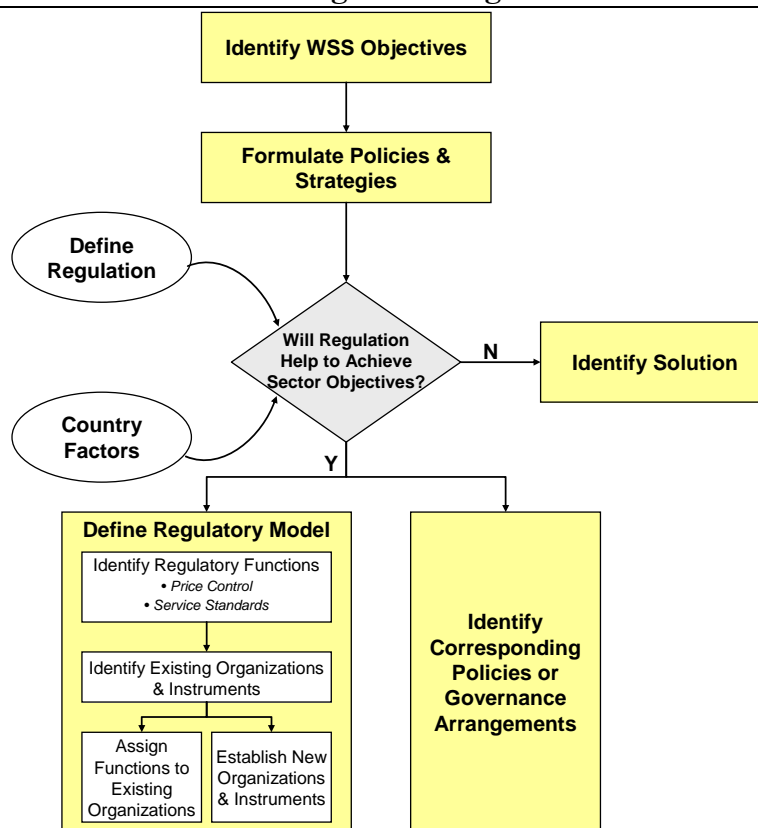
It is worth giving an example of just how poorly thought-out regulatory reform processes can be. In the mid-1990s Trinidad

and Tobago abolished its Public Utilities Commission (PUC). It did this because the PUC had been ineffective in achieving rational tariffs for the state-owned water and other utilities. The PUC had had no discernable positive impact on service standards or efficiencies, and had become bloated and expensive.

Before the decade was out, however, development agencies interested in helping Trinidad to reform its water sector had insisted that it “create an independent regulator”. The Regulated Industries Commission (RIC) was established, an entity with almost exactly the same legal powers and structure as the former PUC. It is even housed in the same building as the former PUC. While the RIC has bright staff working hard to improve the water sector, it must be said that five years after the establishment of the RIC, water tariffs remain well below cost, water service is intermittent, efficiency low and investment inadequate.

We have not picked this example because it is particularly bad, but because it is illustrative of an approach to regulatory reform which has become all too prevalent. Figure 2.1 outlines a better framework for developing workable economic regulation in water.

Figure 2.1: Framework for Thinking About Regulation



Source: Castalia

***The steps involve:
define objectives,***

As illustrated in Figure 2.1, governments should first *identify the water sector objectives and issues*. Without a clear idea of what is to be achieved in the water sector it will be impossible to develop an effective solution. This seems obvious, but surprisingly often this step is missed, or lacks the rigor to allow proposed regulatory and policy reforms to be evaluated against clear objectives.

***... analyze what
regulation and
contribute,***

Having identified the sector objectives, governments must *decide whether economic regulation will help to achieve them*. Economic regulation may be a solution, only part of a solution, or may not be a solution at all. For example, economic regulation is well suited to keeping tariffs in line with efficient costs, but cannot by itself achieve social objectives, such as extending service to unserved customers who cannot afford to pay the full cost of service.

To decide whether regulation is part of the solution, governments need to *know what economic regulation is*. For a definition, refer to the first note in this Series “*Defining Economic Regulation in the Water Sector*”.

***... specify the key
regulatory functions,***

Economic regulation has many facets. Effective regulatory design specifies exactly *what regulatory functions must be performed* to achieve sector objectives. These may include controlling prices, setting service standards, defining asset serviceability indicators, and so on. We discuss the core regulatory functions in Section 2.2 of this note.

***... and choose the
legal instruments in
and organizations in
which to embed the
functions.***

Once regulatory functions have been defined, it is necessary to *allocate them to appropriate organizations*, and to *select legal instruments* to embody the regulatory rules. People sometimes assume that an ‘Independent Regulator’ should perform all regulatory functions. In reality, different functions may be allocated to different organizations, as Table 2.2 shows.²

Finally, regulation alone cannot solve all water sector issues. Governments will need to *identify the complementary policies or governance arrangements* to complete the reforms. For example, in Armenia, regulatory developments and private participation arrangements have proceeded in parallel, supporting each other. In contrast, in Trinidad regulation might be more effective if it were accompanied by reforms to the governance and management arrangements for the state-owned water utility.

² The third note in this Series “*Choosing Economic Regulatory Organizations and Instruments in the Water Sector*” provides more detailed guidance on this step.

2.1 Is Regulation Part of the Solution?

As shown in Figure 2.1, before developing regulation, government should assess whether regulation can help achieve sector objectives. This should not be assumed. It needs empirical testing. For example in Trinidad, Guyana and many other countries, regulation has not been able to overcome political unwillingness to allow water utilities to charge cost recovery tariffs. In Azerbaijan, like many other countries, regulation has not been effective in increasing the efficiency of service provision. In the Comoros Islands, regulation crumbled as political order broke down.

Table 2.1 shows some common water problems, and things to consider in deciding whether economic regulation has a role in solving them. In some cases, such as keeping tariffs at no more than cost-reflective levels, regulation is generally effective, but may need to be supported by complementary policies such as reforming governance. In other cases, such as achieving social objectives, regulation can do little, and government policy and subsidy provision must take the lead.

Table 2.1: Is Regulation Part of the Solution?

| Problem | How Regulation Could Help | Limits on the Effectiveness of Regulation |
|--|---|---|
| Average tariffs are above efficient cost levels | Limiting tariffs to no more than costs. | Where the provider is not able to reduce costs to efficient levels, regulation will causes losses for the company. This may led to service standard reductions and increased subsidies, especially if the provider is publicly owned. |
| Average tariffs are below cost | Providing a neutral and authoritative view on what reasonable cost recover tariffs would be provides legitimacy for tariff increases. This worked for the State of New South Wales (Australia), and in Colombia | Governments nevertheless hold tariffs below costs, especially for publicly owned companies |
| Tariffs are at cost, but some customers cannot afford service | Regulation can assist in this case by allowing cross-subsidies between customer categories. | Allowing cross-subsidies is a policy decision. In some cases, there may not be enough consumers able to pay above cost to subsidize all those who need subsidies. In such cases a tax-payer funded subsidy may be the only option |
| Average tariffs below actual costs, but above efficient costs | Regulation can provide pressures for efficiency on the provider. It can also allow tariffs to rise to cover actual costs | In this situation regulation cannot simultaneously keep tariffs in line with efficient costs and allow the provider to be financially viable. If |

| Problem | How Regulation Could Help | Limits on the Effectiveness of Regulation |
|---|---|--|
| | | tariffs are to be kept in line with efficient costs, the owner will have to be willing to cover its losses while efficiency improves. |
| Unreliable water service provision | Setting a minimum level of service and applying penalties for not meeting this can improve service provision | If the provider lacks the funds, motivation or ability needed to increase service, regulatory penalties will simply increase the provider's losses |
| Inefficient utility operations | Providing incentives to minimize costs while maintaining service quality | If the utility does not respond to incentives, this will not be effective |
| Poor system coverage | Mandating increased coverage targets. Allowing tariffs to recover full costs of service, thus making it financially viable to extend service | If people cannot afford to pay the costs of service extension, regulation will be ineffective and government policy decisions, such as choosing to subsidize service extension, will be needed |

Source: Castalia

2.2 Defining Regulatory Functions

'Regulatory functions' generally include controlling tariffs and service standards

Once governments are clear what regulation can do to help solve sector problems, they will be able to define the required 'regulatory functions'. By 'regulatory functions' we mean what regulation will actually do. For example, when water companies are privatized, as in England and Wales, or Santiago, Chile, it is clear that:

- Tariffs will need to be limited to no more than reasonable levels, and
- Minimum service standards will need to be set and enforced.

Controlling tariffs and service standards are common, core, regulatory functions.

... and may extend to controls on asset condition, efficiency parameters, coverage targets, and the like

Economic regulatory functions can be drawn wider than this core, depending on the circumstances. For example:

- In Manila the MWSS Regulatory Office has recently created a regime to directly encourage reductions in Non-Revenue Water levels
- In Vanuatu, the regulatory regime created under the concession contract for Port Vila includes a mechanism for deciding on network extensions
- In many countries, the regulatory regime also serves to control tariff structure, fulfilling social as well as economic objectives.

Controls on asset condition, operating efficiency parameters,

coverage and tariff structure may be appropriate ‘regulatory functions’ depending on a country’s circumstances and objectives (see *Note 1: Defining Economic Regulation for the Water Sector* for a discussion of what should and should not be thought of as economic regulation)

2.3 Allocating Regulatory Functions to Organizations and Instruments

Regulatory design involves ...

The final step is to allocate regulatory functions to organizations and legal instruments. This is where the difference between the approach outlined in Figure 2.1 and the conventional ‘check the regulatory box’ approach is most apparent.

... assigning regulatory functions to particular agencies

Government need not create a ‘regulator’ to carry out all regulatory functions. Governments should consider which organizations are best suited to perform the regulatory functions. A well functioning ministry, for example, may be a better choice for monitoring provider performance than a new and untested agency. An international panel may be better choice for resetting tariffs than a local public utilities commission.

... and embedding rules in legal instruments

Similarly, governments should not assume that regulation must be embodied in any particular legal instrument, such as a statute or license. The better approach is to choose which instruments would be most effective in making the regulatory rules predictable and enforceable in each case. For example, in Azerbaijan, an attempt to give a utility regulator direct legal powers risked undermining the government’s plans for the sector, and was shelved. In contrast, contracts between government ministries and private providers do an effective job in controlling tariffs in many West African and Latin American countries.

Various allocations can achieve functionally equivalent results ...

To emphasize the point that radically different allocations of functions to organizations and instruments can achieve the same functional result, we compare the regulatory regimes in England and Wales and Senegal.

As is well known, in the UK OFWAT was established by statute and given independent responsibility for setting monitoring and enforcing tariffs and service standards.

Table 2.2 shows that, on the surface, the Senegalese regime for economic regulation of water could hardly be more different. Tariffs and service standard changes are negotiated between the Government and the private operator. Overall responsibility for

monitoring and enforcing these standards lies with a contract monitoring committee, comprising the president, representatives from the ministry of water and ministry of finance, and the Director-General of SONES, an asset holding company. An independent expert assists in resolving disputes and reaching agreement in tariff and service changes.

Table 2.2: Allocating Regulatory Functions

| Regulatory Functions | England & Wales | Senegal |
|---|---|--|
| Set tariffs | OFWAT | Set by the Ministère de l’Energie et de l’Hydraulique (MEH) based on initial agreement for regular tariff increases and estimates by SONES, the asset holding company Co-approved by the Ministère des Finances (MF). Agreed to by the private operator |
| Monitor and enforce tariffs | OFWAT | Concession Contract Monitoring Committee (comprised of representatives of the President, MEH, MF, and General Director of SONES) |
| Change Tariffs | OFWAT | Ministère de l’Energie et de l’Hydraulique (MEH) |
| Control the remuneration received by the private operator | OFWAT | Rules set in the contract |
| Set service standards (e.g. water pressure and reliability) | OFWAT | Rules set in performance contract |
| Monitor and enforce service standards (e.g. water pressure and reliability) | OFWAT | SONES and Performance Contract Monitoring Committee |
| Change service standards (e.g. water pressure and reliability) | DEFRA, Welsh Assembly Government OFWAT responsible for changing level of service indicators | Negotiated between contracting parties (Sénégalaise des Eaux, SONES and Senegal’s central government) |
| Resolve disputes between provider and regulator or government | OFWAT – disputes between consumers and the utility Disputes on OFWAT price limit determinations referred to Competition Commission | Chain of mediation mechanisms: Contract Monitoring Committees, Independent conciliator, and arbitration procedure |

Source: Castalia

And yet, experts who have examined the two systems in detail

conclude that they are functionally equivalent. Both systems perform the same basic functions of keeping tariffs and the remuneration of the operator broadly in line with efficient costs, providing incentives to the utility to be efficient, maintaining and improving service standards, and supporting provider sustainability.

... and the choice should be informed largely by the specific institutional and legal environment of each country.

The choice of organizations and instruments to perform regulatory functions should depend in large part on a country's social, political and legal traditions, as well as sector organization and ownership. Note 3 "*Organizations and Instruments for Economic Regulation*" discusses choosing regulatory organizations and instruments in more detail.



**Water Regulation:
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**Topic III: Regulatory
Architecture**

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1 Rethinking regulatory architecture

Policy makers need to decide which regulatory functions – such as controlling tariffs and service standards – are needed

Economic regulation in the water sector¹ puts legal limits on water service providers, to control monopoly power. Core regulatory functions include setting, monitoring, enforcing and changing allowed water tariffs and service standards. Other economic regulatory functions can include controlling tariff structures, setting coverage targets or ensuring that asset serviceability remains above specified levels (see Explanatory Note 1: *Defining Economic Regulation for the Water Sector*).

... and then allocate these functions to organizations, and legal instruments

Policy-makers needs to specify which economic regulatory functions will contribute to good water service provision in their country. Once the functions are defined, design of the economic regulatory system revolves around choices on:

- Which organizations should have responsibility for which regulatory functions?
- What legal instruments – such as statutes, licences and contracts - should be used to embody the regulatory rules?
- How much of the rules and decision-making processes be defined in detail in legal instruments, and how much should be left to the discretion of the chosen organizations?

A wide variety of organizational ...

It is sometimes assumed that ‘economic regulation’ functions must all be performed by an ‘independent regulator’. On the contrary, this note shows the diversity of organizational arrangements which can achieve functionally similar regulatory results (Section 0).

... and legal architectures are possible.

There are similar misconceptions about the legal instruments suitable for regulation. Lawyers in the (Anglo-American) common law tradition may consider it anathema for ‘regulation’ to be contained in a contract. Those familiar with (French) civil law traditions may be equally uncomfortable with statutes which give a Government agency unilateral power to set tariffs for a private company. In fact, Section 3 shows a wide range of legal architectures can give functionally similar results.

The right design will often depend on local institutional capabilities and legal traditions

Taken together, the set of regulatory functions, organizations, and legal instruments, make up a country’s regulatory architecture. Amidst so many possibilities, how are Government’s to decide on the right regulatory architecture for their country? A short note cannot answer this question, but it can offer some guidance.

¹ We use the term water sector to refer to the provision of clean water, as well as the collection, treatment and disposal of wastewater

A checklist for regulatory architecture

Good architecture should be coherent, which generally requires that:

- All regulatory functions are assigned to one (and only one) organization
- Each organization has the competence to do the jobs assigned to it
- The discretion accorded to the organization is consistent with its ability and incentives to use that discretion well
- The legal instruments chosen provide clarity, predictability and enforceability
- Choices in all the above areas are consistent with the country's culture, legal and political systems.

2 Organizational Architecture

Different jurisdictions perform similar functions through quite different organizational architectures

Different regulatory architectures can do the same regulatory job. Consider three examples:

- The Public Services Commission of Florida, a typical US regulator
- The regulatory regime for the Manila water concessions. This is made up of the Metropolitan Water and Sewerage System (MWSS) Board (a self-regulating government corporation), and its dependent Regulatory Office (Office). The Office regulates private concessionaires which are governed by concession contracts and the MWSS statute
- Water regulation in Colombia, where the “Comisión de Regulación de Agua Potable y Saneamiento Básico” (Commission), the Superintendencia de Servicios Públicos Domiciliarios (Superintendency), the Ministry of Economic Development, Ministry of the Environment and local municipalites all play a role in regulation.

Table 2.1 summarizes how regulatory functions are allocated to organizations in each of these jurisdictions.

Table 2.1: Organizational Architectures in Three Regulatory Jurisdictions

| Regulatory Functions | Florida, USA | Manila, Philippines | Colombia |
|--|---|--|---|
| Set tariffs | PSC ¹ Division of Economic Regulation | Base tariff set during bidding | Commission (Comision de Regulacion de Agua y Saneamiento Basico – Water and Basic Sanitation Services Regulatory Commission) and municipalities |
| Monitor and enforce tariff limits | PSC ¹ Division of Economic Regulation | Regulatory Office (Office) | Superintendency (Superintendencia de Servicios Publicos – Public Services Superintendent) |
| Change tariffs | PSC ¹ Division of Economic Regulation | Office, final approval by MWSS Board [#] , subject to private law arbitration in event of dispute | Commission, municipalities, contractual arbitrators |
| Set service standards (pressure and reliability) | Water pressure set by Department of Environmental Protection | MWSS, set in contract | Ministry of Economic Development |
| Monitor and enforce service standards (pressure and reliability) | Water pressure – Dept of Environmental Protection | Office | Superintendency |
| Change service standards (pressure and reliability standards) | Water pressure – Dept of Environmental Protection | Office, MWSS Board has final approval | Ministry of Economic Development |
| Resolve disputes | Office of the General Counsel, State or Federal Courts | Panel of Appeals | Superintendency , contractual arbitrators |
| Handle consumer complaints | PSC Division of Regulatory Compliance and Consumer Assistance | Office | Superintendency |
| Set drinking water standards | Florida Department of Environmental Protection | Department of Health | Ministry of Economic Development |
| Set effluent discharge standards | Florida Department of Environmental Protection | Department of the Environment and Natural Resources | Ministry of Environment |

*1: Public Services Commission; #: MWSS: Metropolitan Water and Sewerage Services, Office: Note all Regulatory Office decisions are subject to final approval or veto by the MWSS Board of Trustees; ** Government: Minister of Transport, Public Works, Ports and Marines, Civil Aviation and Urban Water Supply*

Source: Castalia

Florida has a classic ‘independent regulator’

The Florida PSC seems like a classic utility regulator. Established by statute, it has broad discretion to set, change, monitor and enforce limits on tariffs. However, the PSC is not responsible for

all water regulatory functions in Florida. Water pressure, drinking water and effluent discharge standards are the job of the Department for Environmental Protection.

While in Manila the Regulatory Office is constrained by the Concession Contracts, and requires approval from the asset-owning company Board

The Regulatory Office in Manila looks like an independent regulator on the US or UK model. The reality is more complex. The Office's discretion is limited by the concession contracts, which set out the rules for tariff adjustment. This contract was agreed between the Board of MWSS (the body which owns the assets and has statutory responsibility for water supply) and the concessionaires that actually provide water services.

Tariff changes recommended by the Office need to be agreed by the Board, and may be appealed by the concessionaires to a contractual arbitrator. The Department of Health controls drinking water standards, while effluent discharge standards are set by the Department of Environment and Natural Resources.

... and in Colombia, setting tariffs is the responsibility of one body, while another body monitors and enforces compliance

The Government of Colombia decided to divide regulatory functions among a range of organizations. Tariff methodologies are set and changed by the Comision de Regulacion de Agua y Saneamiento Basico (Commission). Generally speaking, municipalities set the tariffs in accordance with the Commission's methodologies, but without specific approval from the Commission. Many municipalities have delegated service provision to private firms, operating under contracts which specify how tariffs will be set.

Monitoring and enforcement of tariff limits is the responsibility of a quite separate body, the Superintendencia de Servicios Publicos (Superintendency). The rationale was that making rules should be separated from enforcing them. Service standards are set by the Ministry of Economic Development, but again enforced by the Superintendency.

These examples illustrate the possible range of organizational architectures for regulation

These three examples illustrate the variety of possible regulatory architectures. Some work better than others. However, it should not be assumed that only unified, independent regulatory agencies patterned after US or UK models can be effective. Rather than relying on imported models, the key may be to allocate organizational responsibilities in a manner consonant with a country's organizational capabilities and administrative and legal traditions.

3 Regulatory Instruments

Regulation needs to Economic regulation consists of legal controls on the freedom of

be embodied in legal instruments

action of providers. Legal instruments imposing these controls vary, and include statutes, subordinate legislation, licenses and contracts. For example, in Manila a decision of the Regulatory Office setting a maximum tariff derives its legal force from the Concession contract. Legally speaking, if a concessionaire charged more than the amount stipulated by the Office, it would be in breach of contract.

In contrast, a US public utilities commission is typically created by a statute, and the statute typically makes it illegal for a regulated water provider to charge tariffs which have not been approved by the Commission. The US model has been widely copied, from the Caribbean to Azerbaijan

Different jurisdictions use widely different instruments

Common legal instruments include:

- **Statutes:** legally binding documents passed by the legislature. Statutes may contain detailed regulatory rules themselves, or may confer the power on another body – typically a Minister or a Regulatory Commission – to make such rules
- **Contracts:** binding agreements between two or more parties, usually between the government and a private water provider. Terms in this instrument can only be changed with consent from all parties. Contracts often contain formulae controlling tariffs, and minimum service standards, and may also stipulate the mechanisms by which these limits can be changed
- **Licenses:** typically licenses are issued by a Minister or Executive Agency under statute. Like a contract, a licence may contain detailed regulatory rules, but it has more of unilateral character than a contract, in that it may provide power for the issuing authority or another government agency to change aspects of the licence unilaterally (as is the case with the UK water licenses)
- **Executive Orders:** In some countries, executive agencies can issues orders with legal force. Presidential decrees in some Former Soviet Union countries, or the Philippines of the Marcos era, are example of this

Different countries have chosen a different legal instruments to implement similar regulatory rules. Table 3.1 illustrates the choices some countries have made.

... to achieve similar ends

There is no ‘right’ way to choose legal instruments. Different systems achieve similar results with quite difference legal architectures. The right choice may be the instrument which best provides predictability and enforceability, given a country’s particular legal and administrative traditions.

Table 3.1: Legal Instruments for Regulation in Three Jurisdictions

| Instrument Purpose | Typical USA PUC | Manila, Philippines | Monteria, Colombia |
|---------------------------------------|---|--|---------------------|
| Creates Major Regulatory Organization | Statute | Statute created MWSS, a self-regulating utility The concession agreement created the RO | Statute |
| Controls and Resets Tariffs | Decisions (orders) of the PUC, given legal force by statute | Concession agreement, and also the MWSS statute | Concession contract |
| Controls Service Standards | Varies | Concession agreement, as well as statutes and regulations | Concession contract |

Source: Castalia

4 Legal and Organizational Design for Regulation

Policy makers want to know how to choose from the variety of possible arrangements

Clearly there are a variety of ways to allocate regulatory functions to organizations, and to choose legal instruments to embody regulatory rules. Many arrangements achieve functionally similar results, but there does not seem to be one approach which is always better than the others. How should policy makers choose one design over another?

While each case is unique, the choice should typically be based on whether any proposed design can be expected to:

- Perform all the necessary regulatory functions competently and predictably
- Work given the country's organizational capabilities
 - Be predictable and legally enforceable

Where in-country capacity is scarce, countries could consider using existing organizations, or outsourcing regulation to regional or international bodies

When selecting regulatory organizations, governments should consider the country's human resources capacity and capabilities. If the country has limited technical and administrative capacity, it may not be sensible to create a separate, independent regulatory body. Instead, consider using staff in existing organizations with appropriate skills. Alternatively, outsource regulatory functions to a regional body or a specially created panel of international experts.

Many West African countries conserve water sector expertise by placing regulatory functions within sector ministries. In keeping with the Francophone tradition, the regulatory rules are embodied

in contracts with private operators, allowing a reasonable degree of predictability in their application, despite the fact the Ministry staff are answerable to the Government of the day.

Several small countries in the Eastern Caribbean have addressed capacity issues through implementing a regional regulatory body for the telecommunications sector, and this model has promise for water regulation too.

Contract-based regulation may be more compatible with existing jurisprudence in civil law countries

... while common law countries may be more comfortable with statute-based independent regulators

Legal traditions and jurisprudence help decide the appropriate legal architecture. Countries can generally be divided into two categories: those with a tradition of civil law, and those with a common law tradition. France, Spain, countries in continental Europe, and their former colonies (e.g. many North and West African or Latin American countries), use civil law. The United States, the United Kingdom and many of its former colonies (including many Caribbean, East and Southern African countries), use common law.

These legal systems have given rise to two forms of regulation: *French or civil law regulation*, which evolved from a model of delegated management contracts (such as concession contracts) operating under specialized administrative law, and *Anglo-American or common law regulation*, a tradition of independent regulators that exercise discretion in the public interest.

Hybrid systems are possible, but can lead to unexpected problems

Care is needed in mixing elements from the two traditions. For example, in Manila, the Regulatory Office was created as a notionally independent regulator of the concession contracts. However, all Office decisions are subject to final approval or veto by the MWSS Board of Trustees, a party to the contract. This calls the independence, and even the purpose of a notionally independent Office into question.

The constitution of a country, as well as judicial and administrative traditions, influences which instruments will best promote regulatory stability

Regulatory systems need to be predictable, especially if private investment is sought. Governments may want flexibility to change the rules easily, but such flexibility can in fact be counterproductive. Providers may not act in a manner consistent with the existing rules, if they think the rules can easily be changed. Stability and commitment are important.

In some countries with clear and easily enforceable contract law, contracts offer a good choice for legal commitment, since they cannot be changed unless both parties agree. In other countries Governments may not be constrained by the contracts they sign, so other instruments are more appropriate.

In systems with a separation of powers between the legislature and the executive, and especially in those with bi-cameral legislatures, statute law is hard to change once passed, and so can provide a

stable basis for regulation.

Checklist

Each situation is unique, and regulatory architecture needs to reflect that. But there are certain basic principles which have universal application, and provide a useful design checklist:

- Each regulatory function should be assigned to one (and only one) organization
- Each organization should have the competence to do the jobs assigned to it
- Discretion accorded to an organization should be consistent with its ability and incentives to use that discretion well
- The legal instruments chosen should provide clarity, predictability and enforceability

The principles may be universal. However, the architecture to achieve the principles in any particular country cannot be pre-fabricated 'international best practice'. It must be based on each country's culture, administrative capacity, legal and political systems.



**Water Regulation:
Getting the Basics
Right**

**Topic IV: Regulation and
PSP Contracts**

**OOCUR Conference, Nassau, Bahamas
November
2005**

1 Overview – Regulation & Private Participation

Economic regulation and private participation in water often go together

This note looks at how economic regulatory objectives can be achieved when Governments introduce contract-based private participation in the water sector.

Private participation brings the profit motive. Properly directed, the desire for profits can drive firms to increase operating efficiency, invest in infrastructure, and improve service. At the same time, a private monopoly may seek to increase profits through charging tariffs above cost, skimping on investment, and providing inadequate service. Economic regulation is intended to counteract these tendencies, ensuring that the drive for profits is directed toward reducing costs and improving service, not increasing tariffs and reducing service (see Explanatory Note 1 – *Defining Economic Regulation in the Water Sector*)

... but typical economic regulation models may not work well with typical private participation contracts

Designing a package of economic regulation and contract-based private participation is more difficult than is sometimes realized. The problem is that the common regulatory models are designed to work with utilities which are fully privately owned, but water sector private participation is generally based on contracts between Government and private companies, not outright sale of the utility. This can create a mismatch between economic regulation and the private participation arrangements it was intended to support.

Without careful design, this can cause a damaging mismatch

This note describes how the mismatch arises, and the damaging effects if it can have. It then outlines ways to avoid the mismatch, describing how economic regulatory objectives can be achieved when the governments introduce private participation through concession, management and lease-affermage contracts.

2 Two Traditions Clash

Private participation through contract ...

Private participation in water is usually done through contract; the Government retains ownership of the water assets, and contracts with a private firm to manage the systems to deliver water services to customers. There are many types of contract, but in all cases the responsibilities, rights and remuneration of the private operator are defined by the contract, and the operator is obliged to the Government to deliver the services specified in the contract.

... derives from France

The contractual models commonly used are derived from a French approach to private provision of infrastructure with a history spanning more than a hundred years.

... and differs markedly from the Anglo-American

In contrast, in the USA and England, private participation in water commonly involves a private firm which invests in and owns the assets. Like any firm it would (were it not for regulation) be free

tradition of privately owned utilities to use its assets as it wished, supply whatever service it wanted, and charge whatever prices its customers would pay.

... on which most conventional regulatory models are premised Economic regulation arrangements in the UK and USA share a set of common features. They are based on an autonomous government entity known as a regulator (OFWAT in the UK, a State Public Utilities Commission in the USA), and a statute which gives the regulator legal authority to determine maximum allowed tariffs and minimum service standards. The regulator is expected to act in the public interest, but has considerable discretion in its decisions over tariffs and service standards.

The US and UK models have been widely copied in both water and electricity. The UK strain has taken root in Australia, Malawi and Jamaica, to name just a few examples. Canada, the Philippines and Barbados have long had regulators modeled closely on US PUCs. New ones are being created all the time. Recent examples in the water sector include Armenia (operational) and Azerbaijan (proposed).

The two traditions differ in fundamental ways The assumptions and machinery embodied in the Anglo-American regulatory tradition differ in fundamental ways from those underlying the French tradition of private participation through contract. For a start, the question of controlling the profit-seeking behavior of a private firm does not arise in the same way with private participation through contract, since there is no question of the private provider acting solely in its own private interest - the private firm only provides the service because of its contract with the Government, which confers public service obligations.

Another fundamental difference is that a contractual approach assumes an agreement between equals. Generally, neither party has the power to unilaterally alter the relationship. Often the tariffs and service standards are fundamental contractual terms, and the agreement of both parties is required to change them. This is quite different from a model in which an autonomous government agency has considerable discretion to set tariffs and service standards.

... so attempts to merge them cause problems. Too often, Anglo-American style regulatory models have been layered on top of contract-based private participation, without sufficient thought as to how to make them compatible.

In Guyana regulation has no effect on a government utility under management

- In Guyana, the Government brought in Severn Trent Water International to manage its water utility, under a management contract. The Government also gave the Public Utilities Commission authority over the water utility. The intention was that the private managers would make the utility more

contract

commercial and efficient, while the regulator would ensure that tariffs reflected reasonable costs, and service quality improved. Things have not worked out as planned. Tariffs are well below cost, but the Government still owns the company, controls the Board, and delayed filing for an urgently needed tariff increase. The resulting financial problems make it hard for the utility to improve service. The Public Utilities Commission would like to enforce compliance with service standards, but imposing penalties on the utility would only increase its operating deficit, which, since the company is publicly owned, must ultimately be funded by taxpayers

In Manila, combining a Regulatory Office with a concession contract caused confusion

- In Manila, operation of the water system was transferred to private firms under two concession contracts. Service standards and tariff setting rules are embodied in the contract. Influenced by the OFWAT example, the Government created a quasi-autonomous Regulatory Office (RO). There has been constant confusion over the proper role of the RO. For example, when the Asian currency crisis struck, the regulatory rules needed to be changed if the concessionaires were to remain viable. Yet it was not clear if the RO should take the lead in renegotiating the contract, or if its role was to strictly enforce its terms. This tension nearly tore the RO apart, as senior managers stopped talking to each other and staff launched lunchtime ‘noise barrages’ in protest. Eventually the President of the Philippines intervened to determine the result.

In Azerbaijan the plan was to create a regulator with powers to override private participation contracts, but reforms have stalled

- The Government of Azerbaijan planned to introduce contract-based private participation to the WSS sector. Its advisors drafted statutes to create a US-style regulatory authority with the powers to overwrite the PSP contract. The transaction has not yet been initiated, as the Government has become less convinced of the proposed strategy. If a transaction were attempted, the statutory regulatory system would make it very difficult to attract bidders, and would likely result in extensive disputes between the Government, regulator and contracted parties

It may well be that most harm from mismatches between regulation and private participation occurs not in those cases like Guyana and Manila, where private participation contracts have been successfully concluded, but in those countries where government private participation plans have stalled.

Reforms stall for many reasons, but it is truly tragic when they stall because the very tools which were supposed to support reform instead make it impossible. This is exactly what happens when Governments propose to enter private participation contracts and simultaneously create government entities which can overwrite those contracts.

3 Achieving Regulatory Objectives with Contract Based Private Participation

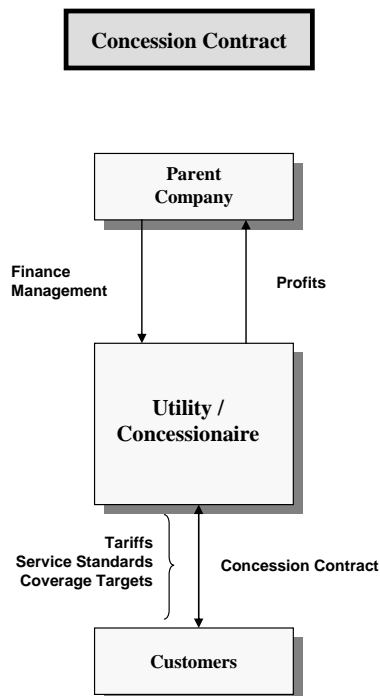
The two traditions achieve the same objectives

Contract-based private participation, and the Anglo-American tradition of independent regulation of fully private water utilities, are different ways of achieving the same objectives. At bottom they seek to direct the commercial drives of private companies toward the achievement of public objectives: good quality water services, at reasonable, efficient prices.

... but clash because of a lack of understanding

Yet as we have seen, policy makers often attempt to unite the two traditions, with damaging results. In part this is because advisors steeped in one tradition have difficulty in understanding the background assumptions, mechanisms and vocabulary of the other tradition.

To reduce this ‘understanding gap’, the following sections review how the three classic types of private participation contract – concession, lease and management contracts – achieve economic regulatory objectives, and highlight areas for productive fertilization between the two traditions.



The diagram at left illustrates a concession contract. In some senses a concession contract is similar to a fully private utility. The concessionaire is responsible for all aspects of service provision, and its shareholder(s) or parent company is rewarded with the profit from the utility, after all operating and debt service costs are paid.

In a classic concession, the contract sets the service standards and tariff rules. Economic regulation – in the sense of protecting customers by controlling tariffs and service standards – is subsumed into the design and monitoring of the concession contract.

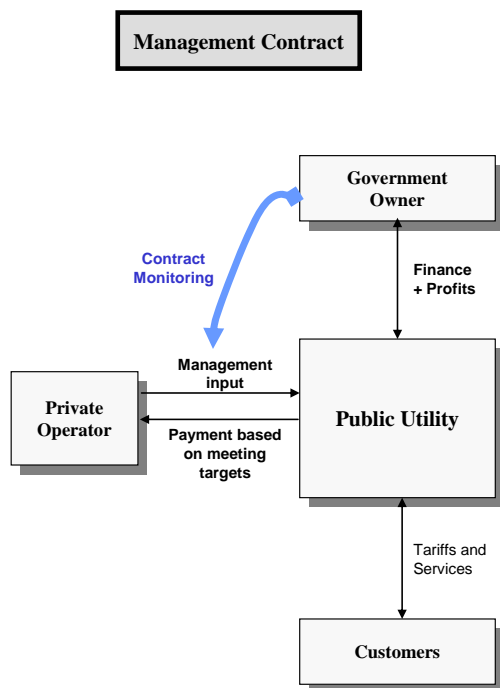
The regulatory roles in this case are to:

- Monitor performance under the concession contract
- Resolve disputes under the contract
- Provide a mechanism to fill in contractual incompleteness by exercising

discretion in a principled and predictable way in those cases – such as tariff resets and response to new information – where discretion is unavoidable.

Traditional concession contracts, such as those in Cote d’Ivoire and Vanuatu, have no special regulatory organizations. Contract monitoring is done by the sector Ministry. Tariff resets are agreed by negotiation between the concessionaire and the Government. Standard commercial law arbitration provisions deal with disputes.

More modern concession contracts have created special government organizations charged with administering the contract, and dedicated mechanisms for making binding decisions at periodic tariff resets. Examples include the Sofia, Bucharest, Manila and Buenos Aires concessions. These have had mixed results, but do point the way toward possible cross-fertilization between the two traditions.



Management Contracts are completely different from concessions in their ‘regulatory’ approach.

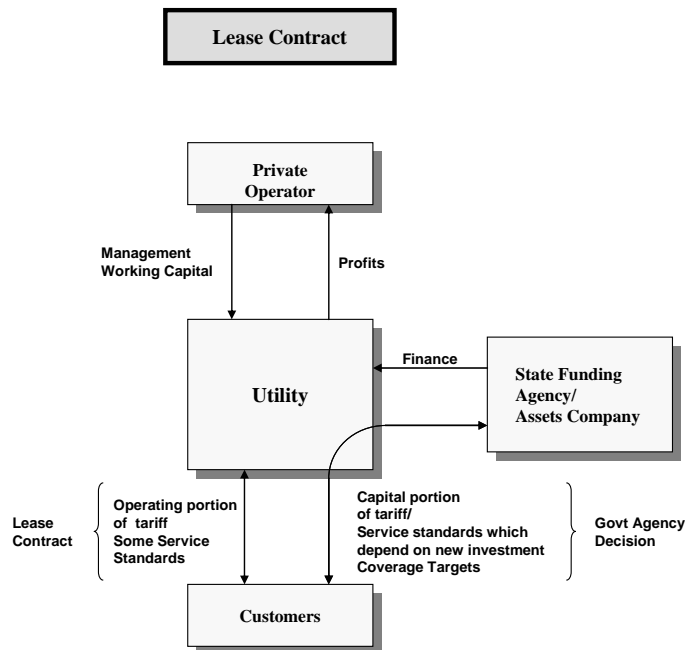
Under a Management Contract the private operator is typically paid a fixed fee for managing the utility, plus a performance fee for meeting financial and service improvement targets.

In this case, the opportunity to harness the profit motive to drive improvements occurs at the management contract level. It is the targets and payments in the management contract which will determine how the operator directs the performance of the utility.

What happens in this case to regulation as it is conventionally understood – that is, controlling the relationship between the utility and its customers by setting service standards and tariff levels?

It will still be necessary to set tariffs and service standards for the utility. However, rules setting tariffs and service standard will only affect behaviour if complying with the regulatory rules somehow affects returns to the private operator. For example, price caps are often thought to provide incentives for utilities to increase efficiency, since reducing costs can increase utility profits. But since most management contracts do not link the operator’s fees

to the profits of the utility, price caps are unlikely to be useful in regulating utilities which are subject to management contracts.



In a lease contract, such as that in Brno in the Czech Republic, the Government retains responsibility for planning and financing capital expenditure. The private operator is responsible for meeting service standards achievable with the assets available.

Typically in a lease the tariff revenue is divided into two parts. The first part covers operating and maintenance costs. This would be retained by the utility. The second part of the tariff would go to the public sector, to help finance additional investment. This complicates tariff regulation. The operator portion of the tariff needs to be governed by the lease contract. However, the Government typically chooses to retain discretion over its portion of the tariff, and so of the final tariff faced by customers.

Service standard regulation is also complicated. Many service levels will be jointly determined by operating and capital decisions, but the private operator does not usually control the capital expenditure decisions. For example, to increase reliability, leaking pipes must be fixed. This can be done by patching leaks as they occur (maintenance) or replacing entire sections of the network (capital expenditure). The private operator may argue that service standards on reliability are being missed because the public sector is falling behind on its pipe replacement program, while the Government may argue that the operator is to blame for not doing adequate maintenance work.

Key regulatory design issues in the case of a lease contract include:

- Holding the private operator to account for performance when responsibility for the system is divided
- ‘Regulating’ the public sector component. Conventional

regulatory tools harness an operator's profit motive to provide incentives for good performance. Different mechanisms are needed to promote efficiency and well-targeted investment in a public sector agency.

4 Summary

Regulation and private participation contracts

Private participation contracts can be effective ways to improve water sector performance. These contracts are often overlaid with Anglo-American style regulatory systems, in the belief that where there is private management of an essential monopoly service, regulation is required.

... often clash

Private participation contracts and Anglo-American regulation of private utilities are different approaches to achieving the same economic regulatory objectives. Yet because they are premised on fundamentally different assumptions about the relationship between the private utility and the Government, systems which attempt to combine the two approaches can suffer damaging internal conflict.

In designing economic regulation for contract-based private participation, the first rule should be to do no harm. Creating a regulator with the power to override the contracts, for example, will usually be counterproductive.

Economic regulation needs to be based on the actual incentives of the private firm under its contract

More generally, conventional assumptions about how regulation will affect a private company need to be carefully tested in such cases. For example, a utility under a management contract will be run not to maximize profits, but to maximize the management contractor's fee. This means that incentive-based regulation needs to work through the design of the performance fee, not through conventional mechanisms such as price caps or penalties imposed on the utility itself.

Cross-fertilization between the two traditions can create efficient, stable regulatory regimes, if well designed

There is scope for productive cross-fertilization between the two traditions. Contract-based approaches offer the Anglo-American tradition new techniques to lock in predictability and regulatory commitment. The Anglo-American tradition has developed a rich set of techniques for calculating reasonable and efficient tariffs at regulatory reviews, in contrast to traditional contract-based approaches which rely on general principles and unstructured negotiations. The Bucharest Water Concession is a good example of such cross-fertilization. But there are as yet no easy lessons or simple models of best practice.