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NEW IDEAS ON COMPETITION & REGULATION

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Competition & Consolidation in Water

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1. INTRODUCTION

The issues surrounding competition, regulation and consumer protection in the water and sewage industry are complex and controversial. Of all the privatised industries, water was the least popular and regarded as the least susceptible to competition. As a result a framework for the privatised water companies had several unique features with permanent regulation as its centrepiece. The consequence has been an industry structure set in aspic while those of the other privatised industries have undergone radical transformation. Moreover, a maturing world market (the OECD calculate that some \$650 billion of water infrastructure investment needs to be made across the world in the next 20 years) means there are huge international opportunities for UK water companies.

Yet they are constrained from expanding at home which would allow them to compete more effectively abroad, by a regulatory framework conceived in the late 1980s. This paper examines whether it is now time to begin the effort to introduce competition into the water sector, and to bring the regulatory framework more in line with developments in other network industries. The Competition Act 1998 provides the impetus for this renewed search for competitive solutions, and this paper proposes that the Government re-examine the whole approach to water regulation, water mergers and consumer protection.

Summary - The Next Steps

The Competition Act 1998 paves the way for a more pro-competitive regulatory regime and the prospect of less reliance on detailed inhibiting regulation. The paper proposes:

- Repeal of section 30(3) of the Water Act governing water mergers so that same public interest criteria applies to all mergers;
- that water-to-water mergers, if in the public interest, should require significant price cuts to be passed direct to consumers;
- the more aggressive introduction of common carriage and network unbundling;
- the opening up of tradeable abstraction licences, and the abolition of any threshold for inset appointments by which customers can choose their own supplier.

The paper is organised as follows. **Section 2** provides a brief overview of the evolution and structure of water regulation, followed in **Section 3** by an assessment of some of the difficulties of the present reliance on regulation. **Section 4** explores the options to increase competitive pressures in the water industry. The paper concludes in **Section 5** with proposals for reform.

2. REGULATORY FRAMEWORK IN BRIEF

Water was privatised on the basis that product market competition, whether at the retail or wholesale level, was not feasible. In plain English the householder would be supplied by the one and only water company in its area; the same water entity that supplied its needs under nationalisation. The Littlechild Report (1986), written by Professor Stephen Littlechild, the Government's consultant in 1986 on the economic regulation of the water industry, concluded that product market competition was not a realistic option. In common with all infrastructure industries water had a number of "special characteristics" which limited direct competition. These include high sunk infrastructure costs, and consequent low marginal costs in supply, making duplication of pipe infrastructure uneconomical. Further, the high transportation costs of water coupled with the rising marginal costs of extraction were seen as further limiting the ability of water entities to compete directly for customers or in the supply of water. Thus the prospect of common carriage, or even regional competition, was seen as distant, if feasible at all. The water industry in England & Wales was thus privatised as 10 large and independent water and sewerage companies (W&SCs) (joining the

now 19 smaller water-only companies or WoCs). Each of these has a regional or local monopoly.

Competition can take place at many levels. Professor Littlechild did not see the periodic competitive franchising of water companies, so called "competition for the market" (Demsetz, 1968), as a viable regulatory device for the water industry. This system is used extensively in France and several other countries. Littlechild's rejection appeared to be based on the perceived problems of franchising already-established vertically integrated water and sewage companies. Like most privatisations, the prospect of restructuring the industry prior to its sale was not a politically attractive option, serving only to delay an already controversial sale of state assets (Veljanovski 1988 & 1991).

The only area left for competition was the capital market. As Professor Littlechild (1986, para 1.9) said at the time:

"Competition is possible in the water industry, but it takes place in the capital market rather than the product market. The possibility of takeover ensures that each authority is under pressure to run its entire business efficiently and innovatively".

This presumption that market forces would be restricted to share price reactions and the mergers or take-over of water businesses has continued. But, as argued below, even this form of competition has been weakened by the demands of the regulatory regime.

Water was therefore to be regulated on a permanent basis. In order to contain the market power of the water companies, the Government introduced a regime of price

controls based on the "RPI minus x" formula used in other industries but with the addition of a "plus k factor".¹ The "plus k-factor" was meant to reflect the need for increased water "prices" in order to finance the legacy of massive under-investment in infrastructure when nationalised and HM Treasury's then unwillingness to fund the estimated £25 billion to comply with EC Directives on water quality. The overarching regulatory objective was to encourage increased privately financed investment. Thus, unlike other privatised industries, the pricing formula incorporated an uplift factor to fund new investment. Since privatisation, the water industry has invested in excess of £20 billion in modernising its network, and is forecast to spend another \$8.5 billion on infrastructure modernisation, capital maintenance and in meeting EU water standards.

Comparative Competition

The novel feature of water's regulatory regime was "yard stick" or "comparative competition".² Comparative competition is not genuine competition but a regulatory technique. It is based on a simple idea. The economic performance of each utility, and hence the setting of the price caps, was to be determined on the basis of best practice or some weighted average of performance of the whole industry. Comparative competition was seen as a surrogate for product market competition by directly putting pressure on the water companies to improve and

maintain their productive efficiency, while passing the benefits of these improvements to their captive customers.

Comparative competition also dealt with another problem - so-called asymmetric information. This is the proposition that the utility companies have information while the regulator struggles with an "information deficit". The existence of a number of utilities, albeit local monopolies, gives the regulator the information to make comparisons and evaluate the performance of individual water utilities, thus redressing this asymmetry.

The importance of comparative competition - and of the comparators being independently controlled - was enshrined in the Water Act 1989. Not only does it affect the day-to-day operation of water regulation and the periodic determination of the price cap, but also merger policy. Under the Act (s. 30(3)(a)) the Monopolies and Mergers Commission (MMC), now the Competition Commission, when considering public interest arguments for a proposed merger, is to have regard:

"... to the principle that the number of water companies which are under independent control should not be reduced so as to prejudice the Director's ability ... to make comparisons between different such water enterprises"

¹ This simplifies the situation. Like all other privatised utilities the price cap has grown in complexity to include a range of other plus/minus factors.

² The economic version of yardstick competition was first rigorously developed by Shliefer (1985) in the context not of (water) utilities but franchised food outlets (MacDonalds) where the range of performance criteria were relatively objective and the industry not capital intensive.

3. ASSESSMENT OF COMPARATIVE COMPETITION

Comparative competition has delivered real benefits and has been a major weapon in the water regulator's arsenal to date. However, like all regulatory interventions it has costs, limitations and introduces its own inefficiencies and distortions. After a decade of operation it is, therefore, legitimate to review its operation and to look for alternatives to the increasingly detailed and frequent regulatory intervention.

Permanent Regulation

The UK regulatory system has been criticised for being based on "light touch regulation" as a metaphor for weak controls and fat profits for the privatised utilities. However, water privatisation from the start was based on permanent rather than light touch regulation. There was no pretence that the Water Act was either a staging post to some ideal of full effective competition in which regulation would wither. As a result, the water regulator's efforts have been devoted to refining and extending the scope of regulation rather than restructuring the industry or seeking competitive alternatives to regulation. Indeed, as indicated below the only area of genuine competitive pressure, that of the threat of take-over, has been diluted to fit in with the demands of regulation. This "regulatory psychology" has not been helpful to searching out alternatives to permanent regulation.

Secondly, the criticism that the industry has been able to mislead the regulator by exaggerating investment requirements at the expense of consumers is not sustainable. In all regulatory systems there are transitional periods where both industry and regulator discover the mechanics and information about the

operation of a new regime. Under the present arrangements, the Director General of Water Services (DGWS), with the assistance of independent "reporters", assesses the comparative efficiency of the companies, and sets investment targets and the related price cap (the *k* factor).³ It is true that the industry has tended to "out-perform" these targets (by on average about 10%) by producing the same outputs at less cost. This outperformance has been interpreted by some as a defect of the regulatory regime, with the suggestion that the companies have not been delivering what they promised or have somehow "gamed" the system (see Professor Dunleavy's paper in this study). However, this is incentive regulation in operation. The ability to "out-perform" is to be encouraged and that is the position of the DGWS and has led to extension of the price cap formula. Furthermore, the water industry's efficiency in achieving output targets is used in the setting the next price caps. As a result, over 84% of the cost savings achieved in the water business have been reflected in lower prices to consumers.⁴

The price caps, and associated review process, were originally intended to take place at ten-year intervals, later shortened to five years, to give the industry a certain and stable framework, and to keep regulation to the minimum necessary. The reality of regulation is that with two years notice of an impending price review and the subsequent corporate focus, it effectively shortens the five year cycle between regulatory interventions to three. This has increased the uncertainty and risks for the water companies, and with this reduced their and the regulator's

³ There has also been inevitable differences between the regulator and the industry over the rate of return on capital employed (ROCE) necessary to fund core (regulated) investment (OFWAT believes it should be between 4.75 and 5.5% while the industry around 6%).

⁴ Contrast this with the new price caps announced by the electricity and gas regulator which allow the companies to retain 50% of fixed cost savings.

effectiveness. This has occurred for a number of reasons. A first cause is the inevitable fine-tuning of regulation as regulators find gaps, react to public and political pressures, and see problems which point to a need for a tightening up of regulatory constraints. This has led to the balance shifting markedly toward reactive regulation from the original conception of stable regulation. This short-termism creates uncertainty which has knock-on effects, such as increasing the risks and cost of investment.

Secondly, regulators regulate, and it is therefore hard for them to resist the temptation to throw their net wider and decrease the size of the mesh. Thus a more interventionist style tends to occur (see generally Veljanovski, 1988, 1991, & 1993a). As a result, the regulatory system in water, and the other utilities, has altered significantly from one which perhaps naively saw certainty and stability of regulation as paramount to one which sees the need for proactive and reactive interventions.

This focus on regulation distracts, distorts, dismays and disincentivises.

Water Merger Policy

Water merger policy has been determined by the needs of comparative competition. As noted above, the regulator and Competition Commission must take account of the regulator's need to make comparisons when assessing a water merger. The operation of this policy has had two distinct phases:

- **1989-1996:** During this period the market for corporate control was fairly unconstrained. The management of water companies were subject of take-over bids from both within and outside the water industry. The former were the most common bidders. This is not

surprising given: (1) better knowledge about the companies; (2) lower stock market valuations attached to multi-sector conglomerates.

- **Post 1996:** In 1996 two water-to-water mergers were blocked by the MMC. This marked a watershed in water merger policy. OFWAT and the MMC indicated that they would not allow further water-to-water mergers to take place because they impaired the water regulators ability to carry out comparative regulation. Mergers with non-water companies still continued.

It is worth exploring the reasons for this change in sentiment. To date, there have been three merger referrals to the MMC (now Competition Commission) involving two W&SCs and another major England and Wales water company. In *Lyonnaise des Eaux/Northumbrian* (MMC 1995), the merger was permitted even though Lyonnaise already owned North East Water and Essex and Suffolk Water. The MMC concluded that the merger would affect the regulator's ability to make comparisons and that this would act against the public interest. However, this adverse effect could be remedied by "substantial price reductions sufficient to propel the merged company to the forefront of efficiency in the industry". Also Northumbrian, a W&SC, was merging with two WoCs, presumably limiting the impact of the loss of a comparator.

In contrast, two bids for South West Water by W&SCs were blocked by the MMC (MMC, 1996a & 1996b). The water regulator's view now seems to be that while there are remedies for the reduction in the quantity and quality of data, there is no real remedy for the loss of independence.

The MMC decisions in 1996 marked a significant change in policy. The main reason for blocking the mergers was the potential loss of information "managerial style". Further mergers between the remaining W&SCs are therefore unlikely to be approved.

Table 1: Major water mergers¹

Bidder	Target	Sectors	Date of bid	MMC Reference	Outcome
Lyonnaise des Eaux ²	Northumbrian	Water/Water	Mar. 1995	Yes	Acquired
North West	NORWEB	Water/Electricity	Sept. 1995	No	Acquired
Welsh Water	SWALEC	Water/Electricity	Nov. 1995	No	Acquired
Wessex	South West	Water/Water	Mar. 1996	Yes	Blocked
Severn Trent	South West	Water/Water	Mar. 1996	Yes	Blocked
SAUR and General Utilities	Mid Kent	Water/Water	Dec. 1995	Yes	Blocked
Scottish Power	Southern Water	Electricity/Water	May 1996	No	Acquired
ENRON	Wessex	Oil/Water	July 1998	No	Acquired

1. This table includes all mergers involving England and Wales WaSCs, other than those with small WoCs. It excludes all mergers involving WoCs only, except those that were referred to the MMC, as was the proposed merger between Mid Kent Holdings plc, General Utilities plc and SAUR Water Services plc (MMC, 1997).
2. Now called Suez-Lyonnaise des Eaux. At the time of this bid, Lyonnaise already owned two of the larger water-only companies (WoCs) in England and Wales, North East Water and Essex and Suffolk Water, and the former was the only WoC in Northumbrian's area.

Consolidation block

The DGWS has made it clear that at least 20 water entities are needed to fulfil his statutory duties in this area. He has therefore indicated that he would oppose any further water-to-water mergers on the grounds that this will impair his ability to make the necessary comparisons effectively to implement comparative competition. As the water companies improve their efficiency and commercialise their activities, there will inevitably be

pressure for consolidation to reduce overheads and expand their business. Thus any W&SC intent on a water-only strategy, that is which does not want to diversify into other utility businesses, will be blocked immediately by the present regulatory regime.

The reason given for this block on industry consolidation reveals an inherent contradiction in water's regulatory system.

As the quotation above from Professor Littlechild stresses, capital market pressures provide a strong incentive for efficiency. Yet, the regulatory system is premised on the belief that this is inadequate and that overt regulatory pressure is needed to keep the W&SC and WoCs efficient. The operation of comparative competition is now blocking a subset of mergers in order to enable the regulator to put pressures on the water companies through price caps. The reason is that the regulator would lose information on "managerial style". However, this is a weak justification. If the concern is to generate "better managerial style", then the best solution is to let the better management take-over a poor performing W&SC. Moreover, it is not self-evident that there would be a loss of information. General company information could still be obtainable by ring-fencing the accounts of the two (merged) water companies, and loss of capital market information from listed companies could still be avoided by creating special type of shares whose performance was linked to the financial performance of the ring-fenced company.

There are other question marks over the ban on further industry consolidation. It is not apparent, for example, that 20 or more water companies are needed for the effective implementation of comparative competition. It is true that the diverse operating conditions, in terms of physical geography, water quality and hydraulics, and demand profiles – of the water companies require a number of data points to give the statistical degrees of freedom to make meaningful comparisons. This is required so that the regulator can disentangle unavoidable from controllable cost differences.⁵

However, it is not without its problems and some are now questioning the validity of the process. One of the inherent difficulties is the tendency for the regulator to seize on easily quantified differences, and for those regulated as a result to focus on these variables. The regulator's priorities become paramount and investment is steered in the direction of regulator preferences. Further, there appear to be diminishing returns from the comparative exercise. The industry, as a result of a decade of regulation has achieved high scores so that often the differences between the water companies are measured to the second and third decimal point.

This has led the water regulator to devise new scoring systems which some argue exaggerate differences between the companies. In this way, the regulator has been accused of giving the illusion that there are major differences between the companies which do not necessarily exist, e.g. water quality where differences between companies are measured in fractions of a percentage. Furthermore, many of the service standards could not be benchmarked against these of other industries. For example, those related to quality of service, response times and customer care need not be benchmarked against other water companies, but other utilities or the general service industry.

⁵ These inevitably impose demanding information requirements on the companies. Each company is required to submit an annual report to OFWAT, the "July return". According to Thames Water their "slimmed down" 1999 July Return comprised 300 double sided pages, 41 chapters

and 41 tables of data.

4. FOSTERING COMPETITION

Under the Water Act the DGWS has a statutory duty to facilitate competition. The DGWS has argued that while he wants "to see the water and sewerage industry opened up to competitive pressures ... currently the scope is limited." (Byatt, 1997b). As a result, real product market competition to the extent that it can be fostered is a limited adjunct to so-called comparative competition. As the regulatory regimes of other utilities move toward competition in preference to regulation, it is necessary for water to also make strong efforts in this direction. The enactment of the Competition Act 1998, which gives the DGWS concurrent powers to enforce its provision in the water industry, opens up the legal gateway for more pro-competitive regime in the water industry. He has indicated a renewed commitment to searching out competition alternatives.⁶

There are a number of ways that product market competition can be fostered. These include abstraction licences, common carriage, insets appointments, and liberalising the making of connections.⁷

One inhibition on the development of product market competition has been limitations of the supply of water due to environmental and geographical constraints. However, the willingness of the Environment Agency to licence new sources of water (so-called **abstraction licences**) is necessary to fostering competition in this area. The DGWS has

expressed support for tradeable abstraction rights (auctioning them), and for further liberalisation of the abstraction licensing system.

Another stimulant to competition is the **inset appointment**. This is where an existing undertaker is replaced by another as the supplier of water and/or sewerage services for one or more customers within a specified geographic area (Byatt, 1997a). Inset appointments can consist of either:

- direct connection to a neighbouring water and sewerage company's system;
- bulk water supply/sewerage connection agreement with a neighbouring undertaker, or;
- new or existing source or a new or existing sewage treatment plant or discharge consent (OFWAT, 1996).

The undertaker has a duty to supply any customer wishing to take a supply of water from a cross-boundary supply. The customer will have to meet the cost of pipelaying (OFWAT, 1996 & Byatt, 1997a).

The Water Act allows companies to apply for **inset appointments**. This was expanded by the Competition and Service (Utilities) Act 1992 which allowed appointments to be granted for greenfield sites and sites supplied with 250 megalitres or more of water a year. The Secretary of State has the power to reduce this threshold if Parliament agrees. There would appear to be greater scope for reducing this threshold and further liberalising and extending the use of inset appointments.

⁶ 'Customers can reap benefits of competition now says Ian Byatt' OFWAT Press Release 30 June 1999.

⁷ In 1996 the Director determined that connection charges were excessive in 53 out of 62 cases determined. The Director is pressing for changes in legislation to allow for other parties (other than the water companies) such as developers and builders to make the physical connection to the mains (OFWAT, 1996).

Common carriage is perhaps the major way of opening up the water sector to competition. This is the use of the trunk or local distribution network to carry the services of third-party suppliers. The incumbent would be obliged to provide terms to potential user within a reasonable period. If they could not agree terms, regulator imposes an agreement. The common carriage proposal would confine natural monopoly regulation to the pipe system, leaving all other aspects of water supply – water resources, production/treatment and retailing (billing) – potentially contestable. It would in effect involve the potential vertical disintegration of the water and sewage sector.

Access to the network infrastructure for out-of-region and third party service providers is an important ingredient of competition in other network industries such as telecommunications, gas and electricity. There the trend has been to increase access to third parties, and more recently to mandate unbundling of networks which would enable others to use those elements which are commercially justified rather than take an all-or-nothing offering of the monopolist utility. The new Competition Act will make it difficult for water companies to refuse to make available their pipes for common carriage (OFT, 1999).

Common carriage, and other access arrangements, look attractive (OFWAT 1996a). This is not to say that there are not problems with such a proposal. Cowan (1997), for example, has argued, due to the absence of a national grid, common carriage is only likely to stimulate competition at a regional level. He doubts that the potential gains (through reduced retail margins and pressure on the upstream business) are worth the extra costs involved in establishing the conditions for common carriage. The costs of abstraction, treatment and retailing to large customers are small relative to the

cost of transportation, and incumbent water companies already have an incentive to abstract water efficiently, since there is no automatic pass-through of these costs in the price formula, and many take raw water supplies from neighbouring suppliers.

Notwithstanding this, the enactment of the Competition Act has made common carriage a reality. Despite the academic misgivings and special pleading of some established water companies it has stimulated considerable interest. For example, Aqua Resources, backed by the French conglomerate Vivendi, is already exploring how it can use common carriage to challenge the monopoly position of the established W&SCs.⁸ This enthusiasm for common carriage is not confined to entrants. Thames Water, the largest W&SC, believes that the lower prices, enhanced customer service and corporate efficiencies that consumers and industry have experienced through full competition in the gas, electricity and telecommunications sectors, can be replicated in water.

Thames Water has constructed a model whereby new suppliers of water making use of existing networks and paying an economic rental for its use, could offer individual customers an alternative supply. It has concluded that common arguments against common carriage are surmountable – issues surrounding water quality and certainty of supply can be dealt with by contractual and regulatory arrangements (as they are now) while technical obstacles such as hydraulic constraints (due to pipe size and network capacity) can also be overcome (recall that it was argued that gas could not be privatised because of safety concerns).

⁸ "Water monopoly challenged in Birmingham" *Financial Times*, 28/29 August 1999, p. 7.

5. THE NEXT STEPS

The above discussion has pointed to a system of regulation which has become over-reliant on detailed permanent regulation and less focussed on seeking out competitive alternatives. The operation of comparative competition has led to an increased burden on regulator and industry; it has ossified the structure of the industry, creating concerns about its ability to deliver a "second generation" of efficiency and consumer benefits.

More can now be done to create a market in water at both wholesale and retail levels. The Competition Act paves the way for a more pro-competitive regulatory regime and the prospect of less reliance on detailed regulation. Among the steps which can be more actively pursued are:

1. complete liberalisation of abstraction licences;
2. removal of the threshold for inset appointments;
3. vigorous promotion of common carriage, and
4. the abolition of the special public interest conditions for water mergers so that one competition test governs all mergers in the UK economy. This would require the repeal of section 30 of the Water Act, and reinstatement of pre-1996 merger policy which made mergers conditional on price reductions to consumers. Such an approach have the added benefits of being self-enforcing and consumer oriented since it ensures a) that the merging entities are force to validate their claims that the proposed merger will benefit consumers by agreeing to price reductions, and b) thereby deter inefficient mergers.

Common carriage could usher in the beneficial restructuring of the water industry unchanged in the decade since privatisation. All that is required is the political will!

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