The Development of Competition in the English and Welsh Water and Sewerage Industry

JOHN W. SAWKINS

Abstract
This paper examines the introduction of competition into the English and Welsh water and sewerage industry following privatisation of the 10 regional water authorities in 1989. It outlines the development of comparative, capital and product market competition, arguing that the greatest opportunities now lie with the last through the introduction of common carriage agreements, the extension of Inset appointments and the introduction of transferable abstraction licences. Despite competitive innovations, the industry remains highly regulated, complex and difficult to enter. One of Ofwat’s outstanding challenges for the next decade is to examine the means by which the regulatory burden might be lightened and barriers to entry lowered, to encourage potential entrants to compete with incumbents.

JEL classification: L9.

I. INTRODUCTION
The 1989 restructuring of the English and Welsh water and sewerage industry, and privatisation of the 10 regional water authorities (RWAs), was, arguably, one of the most technically challenging and politically ambitious projects undertaken by Mrs Thatcher’s Conservative government. With the exception of British Telecommunications (BT), British Gas and the British Airports Authority (BAA), all privatisations up to that point had involved companies subject to significant product market competition across most of their activities. In the case

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of BT, its monopoly power was gradually being eroded by new entrants employing new technology. For British Gas, although the monopoly enjoyed by its distribution network company, TransCo, was secure, it faced competition from suppliers of alternative fuels such as electricity. For BAA, its local monopoly power was subject to competition from other modes of transport. However, the water and sewerage companies (WaSCs) — private sector successors to the RWAs — faced none of these competitive pressures. Instead, they enjoyed an unrivalled degree of monopoly power underpinned by the low substitutability of the services they offered and their ownership and control of water and sewerage networks.1

Historically, the two branches of the industry — water and sewerage — developed separately in England and Wales. Both were natural monopolies in their own right by virtue of their distinct distribution and collection networks. Unlike the electricity, gas and telecommunications utilities, no ‘national grid’ for either service emerged due to the prohibitively high cost of transporting heavy, non-compressible and potentially hazardous liquids over long distances. Nevertheless, by the middle of the twentieth century, a process of integration and consolidation had begun to gather momentum. This brought together many hundreds of independent water and sewerage bodies which had earlier secured the monopoly right to supply particular localities with one or both of these services. The process culminated in the reorganisation of the industry under the terms of the Water Act 1973 and led to the formation of 10 publicly owned multifunctional RWAs in 1974.

The organising principle of ‘integrated river basin management’ endowed these new bodies with operational, environmental and regulatory functions, including responsibility for water supply, sewerage, sewage disposal, water resource planning, pollution control, fisheries, flood protection, water recreation and environmental conservation. However, the Act also preserved the position of 29 private statutory companies that were permitted to continue to supply water, as agents of the RWAs, in their own areas. These water-only companies (WoCs) supplied around a quarter of the population.

In 1986, Stephen Littlechild submitted a report to the Department of the Environment (Littlechild, 1986) in which he discussed the way that a privatised water and sewerage industry might be regulated. Given its status as ‘the natural monopoly par excellence’ (Littlechild, 1986, p. 5), he asserted that any transfer of public monopoly to the private sector would require a new, permanent regulatory settlement. The 1989 Water Act embraced this idea by creating a new economic regulator, the Office of Water Services (Ofwat), and by transferring the environmental regulatory functions of the RWAs to other bodies.2 The 10 RWAs were privatised and licensed to operate as WaSCs, whilst the 29 WoCs

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1Water mains and sewers.

2Including the newly established National Rivers Authority.
already privately owned — were also licensed and continued to operate in their respective areas. All 39 operators came under the economic regulatory auspices of Ofwat, headed by the Director General of Water Services, Ian Byatt.

According to Littlechild, the need for permanent regulation did not rule out the possibility of competition within this industry:

> Competition is not an alternative to regulation of the water authorities, but it is an important complement which can facilitate the regulator’s task and provide added protection to customers.

Littlechild, 1986, p. 1

Three forms of competition, he believed, were possible: comparative (yardstick) competition, product market competition and capital market competition. The government, however, was not optimistic about the industry’s competitive potential, and limited one of the statutory duties of the Director General of Water Services to the facilitation rather than the promotion of competition. This duty was weaker than that imposed upon the Director Generals of Telecommunications and Gas. Furthermore, the facilitation of competition was to be a secondary concern, ranking alongside the protection of customer interests and the promotion of economy and efficiency. The Director General’s primary duties were to ensure that the functions of water and sewerage undertakers were properly carried out and adequately financed. As the new regulatory regime matured, however, the government and Ofwat sought to explore actively the means by which industry operators might be exposed to competitive pressure.

This paper examines the introduction of competition into the English and Welsh water and sewerage industry. It outlines its development and the role of the Director General of Water Services as facilitator. It moves on to analyse the policy’s effects, and concludes by considering the scope and prospects for competition in the future.

II. THE DEVELOPMENT OF COMPETITION

One of the most significant challenges facing the newly appointed Director General of Water Services in 1989 was the lack of a comprehensive information infrastructure. Instead, Ofwat inherited responsibility for the economic regulation of an industry that possessed no centralised reporting mechanisms and no agreed set of technical definitions relating to even the most basic input and output measures. There was, within the industry, a culture of secrecy and a reluctance to share information borne of the protracted negotiations with government over the terms of the privatisation settlement (Sawkins, 1995).

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4Telecommunications Act 1984 (c 12) section 3(2)(b); Gas Act 1986 (c 44) section 4(2)(d).
Competition was well down the political policy agenda, and instead attention was focused on the delivery of the largest programme of capital investment ever undertaken by the industry. To compound matters, there was uncertainty that the regulatory regime would prove to be stable or effective, as opposition parties made much of their policy promises to return the industry to public sector ownership and control.

Ofwat quickly put in place reporting arrangements to enable it to monitor company activities. It consulted with the industry on the question of performance measurement, harmonising company definitions for output parameters such as ‘water delivered’. It required companies to submit a comprehensive annual report of activities — the ‘July Return’ — and established a formal mechanism for reporting back — ‘Dear Managing Director’ letters. During his first year in post, it would have been possible for the Director General to focus his attention and the resources of his Office exclusively on these and other activities associated with his primary duties. However, in early policy statements, he signalled his willingness to explore, actively, the means by which this information might be used to facilitate competition within the industry.

In the first Ofwat Annual Report (1989), Ian Byatt set out the general objective of his Office with respect to competition:

Consumers cannot look to market mechanisms to protect them from unnecessarily high charges or poor service. My objective will be to achieve, through regulation, the same outcome as would normally arise from a competitive market.

1989 Ofwat Annual Report, p. 11

He enlarged on this, referring implicitly to each of the three forms of competition outlined by Littlechild (1986). On comparative and capital market competition, he noted their potential and drew attention to new statutory powers that permitted take-overs and mergers of water undertakings provided they did not unduly prejudice his ability to make valid comparisons. On product market competition, he outlined the possibility of making ‘Inset appointments’, where rival companies would be given the right to supply services on a greenfield site within an area already allocated to an existing appointee. It was not expected that progress would be equally rapid on all three fronts, however, and the Report made clear that the focus of Ofwat’s competitive activities would fall, initially, on comparative competition.

1. Comparative Competition

The origins of comparative competition may be traced to the bench-marking activities of public and private sector organisations seeking to calibrate their performance against that of their rivals. The idea was formalised, however, by

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1 Estimated as £25 billion over 10 years in the 1989 Ofwat Annual Report.
Shleifer in his seminal paper, ‘A theory of yardstick competition’ (Shleifer, 1985), in which he modelled a situation where the price a regulated firm received for its services depended on the costs of identical firms in the same industry. In equilibrium, each firm found it optimal to choose a socially efficient level of cost reduction. This result was shown to generalise to cover the situation in which the industry was comprised of heterogeneous firms with observable differences.

In his report on the economic regulation of privatised water authorities, Littlechild (1986) drew on this idea, stressing the potential for its application to an industry comprised of a series of regional monopolists (Littlechild, 1986, section 10.16). The idea was given statutory recognition in section 29 of the Water Act 1989, which required the Monopolies and Mergers Commission, in coming to a view on the desirability or otherwise of water industry take-overs or mergers, to take into account the effect such an action would have on the Director General’s ability to make comparisons between companies.

Ofwat’s pragmatic approach to comparative competition was articulated with characteristic clarity by the Director General in the first Annual Report:

I shall compare the performance of the 39 appointed companies and use the examples of the best to set standards for the others to introduce an element of comparative competition. Such comparisons will cover differences in operating cost, capital cost, levels of service and ‘customer care’. There will be allowances for differences, such as geographical conditions, which are outside the control of efficient managements. These comparisons will help me achieve a better deal for all water customers in England and Wales.

1989 Ofwat Annual Report, p. 11

The main obstacle to implementing this policy was the informational asymmetry between regulator and regulatees. The water companies effectively had a monopoly of operational information, which protected their position. Consequently, Ofwat gave priority to setting up reporting systems, establishing a common basis for measuring activities and arranging for the independent certification of all information supplied by the companies. These activities sought to reverse the gradual restriction in information availability that had occurred during the late 1980s.

Under the terms of their new operating licences, companies were required to supply information annually on a specified series of Levels of Service Indicators. This information was published on a largely unattributable basis for the first time in October 1990 (Ofwat, 1990), but broken down by company in the following year. Meanwhile, the scope of the July Return of information by companies to Ofwat was widened substantially in 1991 (and in later years) to include more details of operating costs, capital investment and efficiency. In June 1992, Ofwat published summary data in anonymous format on the amount of water delivered to customers and the unit costs of doing so (Ofwat, 1992a). The first attributable information of this sort entered the public domain in November 1992 (Ofwat,
1992b). From that point on, progress was rapid as the scope and quality of comparative information that was made publicly available increased; new measures were reported and others were refined or replaced. In December 1995, the Director General placed the whole July Return for each company, with the exception of a small amount of commercially confidential information, in the Ofwat library for public inspection. This information is now made available on CD-ROM as a matter of routine and stands as evidence of the way in which Ofwat has sought to break the water companies’ informational monopoly.

Allied to Ofwat’s efforts to extend the scope and quality of reported information has been its analytical work, aimed, primarily, at comparing company performance. Early attempts were hindered by uncertainty over parameter definitions and data quality. Nevertheless, Ofwat was not deterred from using raw unit-cost information at the outset. This was initially employed not as a basis for explicit relative efficiency judgements but as a means of eliciting justifications from particular companies for their high unit costs and thereby goading them into improving their performance.

The establishment of an Ofwat technical sub-group to advise on modelling methodology resulted in further refinements to the July Return. In July 1992, information relating to company operating conditions was gathered and subsequently used in a research paper (Ofwat, 1993a) that sought to identify the most significant factors in explaining variations in the cost of operations. Subsequent reports written by Professor Mark Stewart of the University of Warwick (Ofwat, 1993b, 1994a, 1994b and 1994c) employed conventional econometric techniques to model 1992–93 operating costs for water, sewerage and sewage treatment. Ofwat used the results to place individual companies within broad operating-cost ‘efficiency bands’.

The results of these and other comparative efficiency studies fed into the Periodic Review of water company price caps in 1994. However, their role was as corroborative evidence to be used in conjunction with basic unit-cost data. The limitations of techniques such as stochastic frontier function estimation employed in the commissioned research reports were recognised by Ofwat. Consequently, the results of this analysis were used once again, primarily, to prompt companies to explain why their performance measures were out of line with industry comparators:

The ability to compare the costs of water and sewerage companies, however, is particularly valuable in assessing the scope for high-cost companies to reduce their costs ... At the Periodic Review, the onus of proof will be on high-cost companies to explain their costs.

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6Unit costs of sewage collected were reported on an attributable basis for the first time in Ofwat (1993c).
8Details of the way in which these studies fed into the 1994 Periodic Review are discussed in Monopolies and Mergers Commission (1996, pp. 51–2).
Water delivered and sewage collected are the two most appropriate summary measures of the services provided by the water and sewerage companies. Efficiency comparisons will therefore begin with the unit costs of water delivered and sewage collected.

1993 Ofwat Annual Report, pp. 61–2

In the wake of the first Periodic Review, further analytical work was commissioned. The portfolio of comparative performance measurement techniques used by Ofwat was extended to include variations on standard econometric approaches, linear programming studies employing methods such as data envelopment analysis, and standard inter- and intra-industry benchmarking techniques. An important aspect of the more recent total comparative efficiency measurement research programme was the work examining the future scope for efficiency improvements within the industry. Work by the Babtie Group and Europe Economics (Ofwat, 1998b), for example, suggested that there was scope for annual efficiency savings of 1–2 per cent in capital expenditure and 2.5–3.5 per cent in operating expenditure over the next five years. Allied to this has been Ofwat’s desire to derive robust estimates of long-run marginal costs as a means of informing pricing policy (Ofwat, 1999b). Early estimates showed considerable inter-industry variation, and companies were initially reluctant to publish either their methodology or their raw data. Once again, Ofwat overcame these objections, and it put this important comparative information into the public domain for the first time in its 1999–2000 report on tariff structure and charges (Ofwat, 1999d). All this new comparative information fed into the 1999 Periodic Price Review.

Over the past 10 years, therefore, the two main technical means by which Ofwat has stimulated pseudo-competitive behaviour between firms in the industry have been the publication of comparative information and the dissemination of the results of analytical work. However, this approach has been criticised on the grounds that Levels of Service Indicators, for example, may prove less informative once all companies achieve a certain level of performance. Furthermore, their focus is exclusively quantitative, as is the focus of most of the analytical work to date. The way in which qualitative aspects of company operations may be incorporated into Ofwat’s performance measurement programme is, therefore, one of the main technical challenges for the future.

Meanwhile, Ofwat remains convinced that comparative competition has been an effective means of goading companies into wringing inefficiencies out of their operations:

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We use comparative competition as our main vehicle for improving company performance. It encourages companies to provide a better service at lower cost. Comparative competition stimulates the behaviour that market competition might produce.

1998 Ofwat Annual Report, p. 22

Undoubtedly, the publication of comparative information has revealed disparities between companies and the opportunities for arbitrage of various forms. Capital market competition through take-overs and mergers is one way in which these opportunities have been taken up.

2. Take-Overs and Mergers

The Water Act 1989 did not prohibit the take-over of a water company by another enterprise. There were, however, two qualifications to this general rule.

First was the case where the take-over involved a merger with another UK water company. If the proposed merger involved a company with assets valued at under £30 million, the proposal would be considered under the normal provisions of the Fair Trading Act 1973. If the value of the assets to be taken over and the value of those already owned by the bidder both exceeded £30 million, reference to the Monopolies and Mergers Commission (MMC) was mandatory. In coming to a decision, a significant new provision was that the MMC was required to have regard to the principle that the Director General’s ability to make comparisons between water companies should not be impaired. Other mergers involving target water companies whose assets were worth at least £70 million might be referred to the MMC at the discretion of the Secretary of State for Trade and Industry under the Fair Trading Act 1973.

Second, special or ‘golden’ shares were issued for each of the 10 WaSCs. These were held by the Secretaries of State for the Environment and Wales, and they limited shareholders in these companies to a maximum 15 per cent stake for a period of five years. This was aimed at giving the industry a period of stability to permit the WaSCs to meet their environmental objectives. On 31 December 1994, nine of the 10 special shares were redeemed at par. The restriction remained in place for Welsh Water for reasons of national identity.

As with comparative competition, Ofwat was keen to exploit the potential of capital market competition delivered through take-over and merger activity. Gradually, it became clear to industry analysts that the initial regulatory settlement had been extremely generous to the companies, an impression confirmed when most companies, under pressure from Ofwat, were able to hold

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### TABLE 1

**Water Mergers**

<table>
<thead>
<tr>
<th>New company</th>
<th>Date of single licence</th>
<th>Companies involved</th>
<th>Reference to MMC</th>
<th>Price reductions</th>
</tr>
</thead>
<tbody>
<tr>
<td>North East Water</td>
<td>31 March 1992</td>
<td>Newcastle &amp; Gateshead Sunderland &amp; South Shields</td>
<td>No</td>
<td>1% from April 1991</td>
</tr>
<tr>
<td>Severn Trent</td>
<td>1 September 1993</td>
<td>Severn Trent Water East Worcester</td>
<td>No</td>
<td>15% over three years (EW area only)</td>
</tr>
<tr>
<td>Essex &amp; Suffolk</td>
<td>31 March 1994</td>
<td>Essex Water Suffolk Water</td>
<td>No</td>
<td>None</td>
</tr>
<tr>
<td>Three Valleys</td>
<td>31 March 1994</td>
<td>Colne Valley Lee Valley Rickmansworth</td>
<td>Yes</td>
<td>9% for combined company over six years</td>
</tr>
<tr>
<td>South East Water</td>
<td>1 April 1994</td>
<td>Eastbourne Mid Sussex West Kent</td>
<td>No</td>
<td>2.7% for combined company over one year</td>
</tr>
<tr>
<td>Bournemouth &amp; West Hants</td>
<td>1 July 1994</td>
<td>Bournemouth &amp; District West Hampshire Water</td>
<td>No</td>
<td>0.8% for combined company over four years</td>
</tr>
<tr>
<td>Sutton &amp; East Surrey Water</td>
<td>1 April 1996</td>
<td>East Surrey Water Sutton &amp; District</td>
<td>No</td>
<td>3.5% over three years 5% best endeavours</td>
</tr>
<tr>
<td>Northumbrian</td>
<td>1 April 1996</td>
<td>Northumbrian Water North East Water</td>
<td>Yes</td>
<td>15% over six years (merged water revenue only)</td>
</tr>
<tr>
<td>Dee Valley</td>
<td>1 April 1998</td>
<td>Chester Waterworks Wrexham Water</td>
<td>No</td>
<td>3.5% by 1 April 2001</td>
</tr>
<tr>
<td>South East</td>
<td>1 January 1999</td>
<td>Mid Southern South East</td>
<td>No</td>
<td>0.5%</td>
</tr>
<tr>
<td>Anglian</td>
<td>1 April 2000</td>
<td>Anglian Hartlepool</td>
<td>No</td>
<td>—</td>
</tr>
<tr>
<td>Yorkshire</td>
<td>1 April 2000</td>
<td>Yorkshire York Waterworks</td>
<td>No</td>
<td>15% (YW area only)</td>
</tr>
<tr>
<td>Northumbrian</td>
<td>1 April 2000</td>
<td>Northumbrian Essex &amp; Suffolk</td>
<td>No</td>
<td>—</td>
</tr>
<tr>
<td>Three Valleys</td>
<td>1 October 2000</td>
<td>Three Valleys North Surrey</td>
<td>No</td>
<td>—</td>
</tr>
</tbody>
</table>

Source: Various Ofwat News Releases.
price increases well below those permitted by their price caps. The improved quality and quantity of comparative information allowed predators to identify potential take-over targets and assess whether profitable opportunities existed.

Once take-overs had been approved, it was generally the case that negotiations would begin between Ofwat and the new owners to arrange a single licence or appointment for the newly merged company. Therefore the date of take-over generally preceded the date on which a single licence was granted by months or years. Table 1 lists the successful mergers between water enterprises to date.

The first wave of take-over and merger activity was undertaken by French multinationals that had acquired large shareholdings in many statutory water companies in the late 1980s. For example, Lyonnaise UK plc, a subsidiary of Lyonnaise des Eaux, consolidated the operations of Newcastle and Gateshead Water and Sunderland and South Shields Water with the creation of North East Water in November 1990. Although the merger did not qualify for an automatic reference to the MMC, agreement was reached with Ofwat to reduce charges by 1 per cent across the area. In the case of the Three Valleys Water Company created from the Lee Valley, Colne Valley and Rickmansworth water companies, an MMC inquiry did take place. The MMC report (MMC, 1990) concluded that, whilst the merger would operate against the public interest by reducing the number of comparators available to the Director General, the adverse effects could be mitigated if the benefits of merger were passed on to customers in the form of lower charges. The Secretary of State for Trade and Industry allowed the merger to proceed provided General Utilities plc — a wholly owned subsidiary of Compagnie Générale des Eaux and the majority shareholder in the Lee Valley Water Company — reduced charges by 9 per cent across the Three Valleys area.

These two examples illustrate the Ofwat policy towards small company mergers, articulated in its 1989 Annual Report:

Mergers between existing water enterprises in the UK and the integration of their management would reduce the number of comparators and prejudice my ability to make valid comparisons. I recognise, however, that there may be public benefits which could outweigh such a detriment. In such circumstances I would generally wish to see a single new appointment for merged or jointly managed companies with a new price limit (K) for that company.

1989 Ofwat Annual Report, p. 11

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11 Companies ‘voluntarily’ agreed to limit their price increases to levels below those permitted under the price cap settlement in September 1991 (Ofwat Press Notice 25/91, 1 October 1991, ‘Water companies cut price increases’). Price limits were formally reduced by ‘Interim Determination’ in October 1992 when Ofwat issued notices to 19 of the 32 companies of an adjustment under condition B of their licences (Ofwat Press Notice 27/92, 16 October 1992, ‘Most water companies settle for lower charges next year’).
12 For example, the companies comprising Three Valleys merged in October 1990 but were not granted a single licence until 31 March 1994.
### TABLE 2
Merger References to the Monopolies and Mergers (Competition) Commission

<table>
<thead>
<tr>
<th>Parties involved</th>
<th>Date referred</th>
<th>Date MMC report published</th>
<th>MMC findings adverse</th>
<th>Approval by Secretary of State for Trade and Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Utilities plc / The Colne Valley Water Company and Rickmansworth Water Company</td>
<td>7.9.89</td>
<td>27.4.90</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>General Utilities plc / The Mid Kent Water Company</td>
<td>4.1.90</td>
<td>4.7.90</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Southern Water plc / Mid-Sussex Water Company</td>
<td>4.1.90</td>
<td>4.7.90</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Lyonnaise des Eaux SA / Northumbrian Water Group plc</td>
<td>31.3.95</td>
<td>26.7.95</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Severn Trent plc / South West Water plc</td>
<td>21.5.96</td>
<td>25.10.96</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Wessex Water plc / South West Water plc</td>
<td>21.5.96</td>
<td>25.10.96</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Mid Kent Holdings plc / General Utilities plc / SAUR Water Services plc</td>
<td>23.5.96</td>
<td>21.1.97</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

It was not always the case, however, that an accommodation could be reached. In the case of Mid Kent Water, two separate references to the MMC in 1990 and 1996 (see Table 2) resulted in possible take-overs by General Utilities plc and SAUR being blocked. In both cases, the MMC was not persuaded that any price reduction would be sufficient to remedy the expected detriment of the merger to Ofwat’s system of comparative competition. This finding underpinned the action of the Secretary of State for Trade and Industry in blocking both bids.

A second wave of take-over activity was precipitated by the expiry of the government’s ‘golden share’ in the WaSCs in December 1994. Two of the smallest WaSCs — Northumbrian and South West — were quickly targeted, leading in each case to an MMC reference (see Table 2). Final decisions by the Secretary of State for Trade and Industry once again turned on whether Ofwat’s ability to make comparisons would be prejudiced unduly. In the case of Northumbrian, the potential partner, Lyonnaise UK, already owned North East Water, which operated exclusively within Northumbrian’s area. Despite the loss of a water comparator, however, the merger was allowed to proceed on the grounds that a 15 per cent price reduction for water services would be delivered.
over six years. Crucial to this decision was the fact that Lyonnaise UK did not
own or control any of the other combined WaSCs, and the number of sewerage
comparators would therefore be unaffected. In contrast, proposals by Wessex
Water and Severn Trent to merge with South West Water were blocked. If
allowed to proceed, either merger would have reduced the number of separately
owned companies delivering sewerage (and water) services from 10 to nine. In
the MMC report on the proposed Severn Trent–South West Water merger, the
importance of ownership diversity for effective comparative competition was
discussed:

The DGWS [Director General of Water Services] also told us that a diversity of ownership
of water companies was likely to secure the greatest variety of management styles and
techniques. The industry was more diverse than it had been under public ownership and
companies had continued to differentiate themselves one from another in the sector.
Experience had shown that differences in performance were fundamentally affected by
differences in management style and priorities, which were themselves driven by
differences in ownership. The more independent companies that were able to take part in
this process, the more effective comparative competition would be. Separate Appointments
in the hands of a common owner were a poor substitute for separate ownership; for
example, the DGWS told us that each of the French Groups (General Utilities, SAUR and
Lyonnaise) had their own management style which permeated the whole group. This
overall management style tended to impose uniformity on the performance of the individual
companies in the group, reducing their value as comparators.

Monopolies and Mergers Commission, 1996, p. 14

In addition to mergers between water enterprises, other utility operators
sought potential partners in this sector. In the instances involving electricity
suppliers, Ofwat and the Office of Electricity Regulation (OFFER) issued joint
consultation papers and advised the Secretary of State for Trade and Industry of
the implications of sanctioning the creation of ‘multiutilities’. It was generally
the case that the mergers were allowed to proceed subject to minor amendments
to operating licences. Water–electricity partnerships were the most popular:
North West Water joined with Norweb to form United Utilities, Welsh Water
acquired SWALEC and Southern Water was taken over by Scottish Power.

The examples discussed above are representative of the competitive activity
in the water industry capital market since 1989. This activity continues;
however, Ofwat has signalled its reluctance to contemplate any merger of
WaSCs and indeed any further reduction in the number of water-only companies
remaining. The 1995 Ofwat Annual Report set out in tabular form a ‘spectrum of
detriments’ from mergers (see Table 3).

It remains possible that the surviving WoCs will finally be absorbed by the
WaSCs in whose area they operate, particularly if by doing so they act as a new
TABLE 3
Spectrum of Detriments from Water Mergers

<table>
<thead>
<tr>
<th>Most harmful</th>
<th>Least harmful</th>
</tr>
</thead>
<tbody>
<tr>
<td>Merger of two contiguous water and sewerage companies</td>
<td>Merger of two neighbouring small companies</td>
</tr>
<tr>
<td>Merger of two non-contiguous water and sewerage companies</td>
<td></td>
</tr>
<tr>
<td>Merger of two independently controlled large companies in the same region</td>
<td></td>
</tr>
<tr>
<td>Merger of two large companies in different regions</td>
<td></td>
</tr>
<tr>
<td>Merger of a large company with a small company</td>
<td></td>
</tr>
</tbody>
</table>


exemplary comparator in terms of efficiency. However, the emergence of product market competition may prove to be the catalyst that will reverse the trend that has seen the number of independent water enterprises operating under independent licences reduce from 39 in 1989 to just 27 a decade later.

3. Product Market Competition

(a) Inset Appointments

One of the most radical innovations of the 1989 Water Act was its opening-up of the possibility of product market competition within the industry. The main vehicle for this was to be the ‘Inset appointment’ — an agreement whereby one company would be given the right to supply services within another’s statutory area. The Act limited Inset opportunities to sites not receiving a service from an existing undertaker (‘greenfield sites’) which were located more than 30 metres distant from the incumbent undertaker’s main or sewer. However, although the Act ended the right of companies to act as regional monopolists in principle, in practice product market competition of this form was very slow to develop.

The main practical obstacle to Insets at the start arose as follows. For Inset applicants to be successful, they were under an obligation to demonstrate to the Director General that they had enough water available to supply customers. However, they were not permitted to apply for bulk supplies from other companies until they had been appointed undertakers for the relevant areas. This and other practical obstacles led to new legislative provisions contained in the Water Industry Act 1991 (sections 7 and 8) as amended by the Competition and Service (Utilities) Act 1992 (section 40).

The outcome of these changes in the law was to enlarge the scope for product market competition, making Inset appointments possible in respect of all greenfield sites and all sites where existing customers were supplied with 250 megalitres or more of water a year.13 Crucially, Inset applicants were given the

13The Secretary of State was given the right to reduce the 250-megalitre threshold with the permission of Parliament.
right to apply to existing undertakers for bulk supplies of water and for mains sewerage connections in advance of appointments being made. In cases where a potential appointee was unable to obtain the necessary supplies of water or access to sewage treatment facilities from an existing appointee, the Director General was given the right to determine the price and the other terms of supply. Inset appointments could also be granted if an incumbent consented to change its boundary to allow part of its area to be transferred to another undertaker. However, Insets could not be used as a device for taking over the whole of another undertaker’s area.

Despite these changes, the Inset appointment process remained lengthy and involved. Delicate negotiations between applicants, customers, incumbents and Ofwat were often frustrated by a reluctance on the part of rival companies to share commercially sensitive information. The 1995 Ofwat publication *Competition in the Water Industry: Inset Appointments and their Regulation* sought to clarify the criteria and process for applying for Inset appointments, estimating that applications would take approximately 23 weeks to process. This proved to be extremely optimistic.

By June 1994, just two Inset applications had been received. It was not until May 1997 that the Director General granted the first Inset appointment, almost eight years after the principle had been established in statute. Under the new agreement, Buxted Chickens Ltd became a customer of Anglian rather than Essex and Suffolk Water. Company licences were altered and a new 3.5km dedicated pipeline constructed to link the site with an Anglian water main. The first Inset sewerage agreement was also entered into by Anglian, which took over provision of sewerage services on the former RAF Finningley site in March 1998. Later that year, Ofwat published proposals to allow Hartlepool Water to supply a greenfield site in Northumbrian’s area.14 This first Inset application for an undeveloped site was finally granted in February 1999.

Revised Inset appointment guidelines were issued by Ofwat in February 1999 (Ofwat, 1999a), including a new timetable, which predicted a 16- to 30-week period for the whole Inset process. The new guidelines emphasised the need for greater transparency in the exchange of price, cost and tariff information and encouraged potential applicants to discuss their intended actions with Ofwat at an early stage. Amongst the changes aimed at reducing regulatory transactions costs was the Director General’s decision not to set a price cap for new Inset appointees but merely to ensure that the customer was left no worse off than if it had remained with the previous supplier. Overall, the aim of the new guidelines was to encourage transparent negotiations and thereby lower entry barriers for prospective competitors.

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14Ofwat Press Notice 43/98, 26 October 1998, ‘Ofwat publishes proposals to allow water company to supply new development in another’s area’.
In March 1999, Albion Water (Shotton) Ltd was granted a licence and became the first new entrant to the industry since privatisation, replacing Dwr Cymru (Welsh Water) as Shotton Paper’s supplier of water services. Under the terms of the agreement, Albion, a subsidiary of Enviro-Logic Ltd, acted as an intermediary, buying water from the incumbent Welsh Water and delivering it to Shotton. This arbitrage arrangement is typical of the agreements agreed or being negotiated at present.  

Most recently, on 17 August 2000, regulations came into force that lowered the Inset appointment threshold to 100 megalitres per year for companies in England. Ofwat estimates that this will permit more than a thousand additional users to apply for Inset appointments.

(b) Other Forms of Product Market Competition

Several other forms of product market competition are permitted under current legislation: first, cross-border supplies. The Competition and Service (Utilities) Act 1992 gave customers the right to demand a supply of water to be used for domestic purposes from any undertaker irrespective of where they live. The customer is obliged, however, to meet the costs of making any necessary connections. Clearly, the option is unattractive at present for the vast majority of domestic users, although customers living near the border of two competing suppliers might be in a position to benefit from a change in supplier. At present, there are no instances of domestic cross-border supplies. In May 2000, however, Thames Water announced its commitment to provide a cross-border supply of water to Brands Hatch motor racing circuit. Projected customer savings are judged to be of the order of 20 per cent. Second, it is open to customers to buy water and sewerage services from private operators that develop new sources and that do not come under the economic regulatory auspices of Ofwat. These companies are permitted to negotiate prices without constraint, but always subject to meeting minimum quality standards. Third, companies are permitted to subject many of their functions to market competition via competitive tendering procedures. In theory, for example, some operational functions could be subcontracted to other suppliers. The basic requirement is that licensed operators must retain sufficient control of operations to ensure they deliver a proper service to their customers whilst meeting environmental obligations.

To this list must now be added common carriage — the shared use of the supply pipes and other infrastructure of an existing statutory undertaker by a third party in order to enable the third party to provide services within the

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15 By 31 March 2000, six Inset appointments had been made and eight other applications registered with Ofwat.
16 The boundaries between the WaSCs generally follow divisions between watersheds such as ridges, hills or mountains. Pumping water across watershed boundaries is very costly.
incumbent’s area. This is, arguably, one of the most controversial and potentially far-reaching consequences of the Competition Act 1998.

The Act, which came into force on 1 March 2000, prohibits companies entering into agreements that are anti-competitive, i.e. that prevent, restrict or distort competition in the UK. It also prohibits abuse of a dominant market position, a provision which may provide an effective legal framework for the development of common carriage. For example, if, by denying access to infrastructure assets, such as mains or sewers, an incumbent company excludes a potential competitor unreasonably, the competitor may make a complaint of anti-competitive behaviour to the Director General of Water Services or the Director General of Fair Trading. A company’s access prices may be considered unreasonable if it treats new entrants differently from the way it treats itself or if it discriminates unduly between different entrants. It may refuse to offer terms, or offer anti-competitive terms. If a breach of the Act has taken place, the Director General of Water Services can direct a company to change its conduct and, if appropriate, impose financial penalties of up to 10 per cent of the offender’s UK turnover per year. All decisions under the Act are subject to appeal to the Competition Commission.

Guidelines on how the Act will operate were published jointly by Ofwat and the Office of Fair Trading (Office of Fair Trading, 2000). These emphasise the importance of ensuring that the competitive process is unhindered and note that the Director General of Water Services may investigate breaches of the Act on his own initiative. Guidance on how companies should deal with drinking water quality aspects of common carriage were issued separately by the Drinking Water Inspectorate (Drinking Water Inspectorate, 2000). Significantly, the Inspectorate was of the view that public health and environmental concerns were not a barrier to common carriage operations. Ofwat’s approach to the administration of the Act was summarised in a series of Dear Managing Director letters.17

In coming to a view as to whether a company has behaved anti-competitively, Ofwat is constrained to act in a way that is consistent with all its statutory duties. It must be satisfied, for example, that common carriage arrangements do not lead to an unsatisfactory level of service or jeopardise an incumbent’s ability to finance and carry out its functions. In determining charges, Ofwat must avoid ‘undue preference’ between customers, and in particular must protect the interest of rural customers. This is a complex balancing act. For, as product market competition develops through common carriage arrangements, cross-subsidies will unwind further and charges become more cost-reflective. Any competitive initiatives involving further regional de-averaging of prices must remain consistent with the Director General’s duty to protect the interests of all classes of customers. The scope and potential for the development of further product

17Ofwat, 1999c, 2000e, 2000g and 2000h.
market competition will continue, therefore, to be constrained by this wider regulatory framework. It may be many months or even years before the first common carriage agreements are finalised and this new form of product market competition realised.

III. THE EFFECTS OF COMPETITION: AN ASSESSMENT

There is little doubt that these advances in competition would not have come about but for the commitment of the first Director General of Ofwat, Ian Byatt, to the policy. Throughout his time in office, he confirmed in public statements his belief in its efficacy as a means of delivering benefits to water company customers. The following recent statement is typical:

Comparative competition has served the customer well. They can now expect — and receive — better service than ever before. Comparative competition has reduced companies’ costs and, as a result, prices will be lower for customers. Inset appointments have had a trickle-down effect with benefits extending to the next tiers of customers. ... Parliament requires water–water mergers to be referred to the Competition Commission. The bottom line is that we should not have such mergers without counterbalancing and overwhelming benefits to customers.

Ofwat Press Notice PN32/9918

It remains difficult, however, to quantify the effect of Ofwat’s pro-competitive stance in the absence of an appropriate comparator group of companies operating within a similar institutional setting. Nevertheless, there is some empirical evidence available that might be brought to bear on the question of the efficacy of competition.

1. The Effect of Comparative Competition

From the beginning, comparative competition was, undoubtedly, one of the most effective regulatory devices at Ofwat’s disposal. The early publication and dissemination of comparative statistics served to inform key industry stakeholders of the relative positions of individual companies along several dimensions of performance. Armed with this information, the stakeholders — regulators, water company customers, shareholders and the government — began to seek explanations from individual organisations regarding the gross disparities in operational performance. This, in turn, prompted the companies to reallocate resources towards those dimensions of performance that were measured and reported. Consequently, the range and variance of these measures reduced as the

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1830 June 1999, ‘Customers can reap benefits of competition now says Ian Byatt’ (extract from a speech to the European Policy Forum’s Pro-Competition Round Table on 29 June 1999).
TABLE 4
Total Industry Performance

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<tr>
<td>DG2</td>
<td>Properties at risk of low pressure</td>
<td>1.85</td>
<td>1.69</td>
<td>1.27</td>
<td>1.02</td>
<td>0.81</td>
<td>0.78</td>
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<td>DG3</td>
<td>Properties subject to unplanned supply interruptions of 12 hours or more</td>
<td>0.42</td>
<td>0.20</td>
<td>0.38</td>
<td>0.35</td>
<td>0.26</td>
<td>0.58</td>
<td>0.21</td>
<td>0.15</td>
<td>0.05</td>
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<td>DG4</td>
<td>Population subject to hosepipe bans</td>
<td>41</td>
<td>13</td>
<td>12</td>
<td>0</td>
<td>3</td>
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<td>30</td>
<td>3</td>
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<td>Properties subject to sewer flooding incidents</td>
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<td>DG5</td>
<td>Properties at risk of flooding from sewers once every 10 years</td>
<td>0.13</td>
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<td>0.09</td>
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<tr>
<td>DG6</td>
<td>Billing contacts not responded to within five working days</td>
<td>31.18</td>
<td>30.49</td>
<td>20.15</td>
<td>16.27</td>
<td>11.05</td>
<td>10.00</td>
<td>8.16</td>
<td>4.74</td>
<td>2.53</td>
<td>1.52</td>
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<td>DG7</td>
<td>Written complaints not responded to within 10 working days</td>
<td>31.09</td>
<td>25.64</td>
<td>18.14</td>
<td>24.12</td>
<td>5.48</td>
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<td>5.07</td>
<td>1.99</td>
<td>1.28</td>
<td>0.64</td>
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<td>DG8</td>
<td>Bills not based on meter readings</td>
<td>3.67</td>
<td>2.32</td>
<td>0.88</td>
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<td>DG9</td>
<td>Received telephone calls not answered within 30 seconds</td>
<td>26.97</td>
<td>18.76</td>
<td>9.70</td>
<td>9.29</td>
<td></td>
<td></td>
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Source: Ofwat, 2000a, Table 1, p. 6.
new regulatory regime matured. Table 4 illustrates this process at the industry level for the key performance indicators specified in company licences. The same pattern is observable in the disaggregated company-level data, where the gap between the best- and the worst-performing companies along the various dimensions has steadily narrowed throughout the last decade.\textsuperscript{19}

At the same time, the Director General was aware that improvements in measured aspects of performance sometimes brought about a deterioration in the unmeasured aspects. Ofwat responded to this problem by phasing in new performance indicators or refining those already in use. To date, however, it has proved reluctant to drop any but the most peripheral indicators within its package.

Other instances of the way in which Ofwat has goaded companies into improving their performance may be offered. In each case, comparative information has been used by the regulators and other interest groups such as politicians, customers or the press to exert pressure on poorly performing companies to modify their behaviour. Comparative statistics relating to leakage, disconnections and unit costs have enabled Ofwat — in the first instance — to identify underperforming companies. Armed with information supplied by other companies, it has then been possible to set challenging but realistic targets for improvement and to track progress towards meeting those targets consistently.\textsuperscript{20}

Overall, although the prominence given to comparative competition by Ofwat has diminished slightly in recent years, there is no question of it abandoning this regulatory tool. Having served as a means by which the gross inefficiencies have been wrung out of the industry, it continues to provide valuable insights into company operations.

2. The Effect of Capital Market Competition

In general terms, capital market competition might be expected to reduce X-inefficiency within a company, drive down costs and thereby reduce the possibility of take-over by a hostile predator. Isolating and measuring the effects of this form of competition is, however, problematic. For the English and Welsh water industry, it is further complicated by the legislative and regulatory antipathy towards water–water mergers in cases where important comparators are involved.

The threat of merger or take-over has, however, prompted companies to offer price reductions to customers. This implies reduced revenue and operating profit unless efficiency gains are made. Price reductions are, therefore, a crude proxy for the effect capital market competition has on particular firms within the industry, if it is assumed that they would not have been offered in the absence of take-over or merger activity. A leading example of this in England and Wales

\textsuperscript{19}See, for example, Ofwat (2000a, Table 5, p. 15).
\textsuperscript{20}See, for example, Ofwat (1998c).
was South West Water’s announcement of a £15 customer rebate and 20.4 per cent increase in interim dividends during its 1996 defence of hostile take-over bids from Severn Trent and Wessex Water. In the end, the bids were blocked by the Secretary of State for Trade and Industry. The threat of take-over, however, was enough to induce South West to put its management under considerable pressure to make good the reduction in profit that resulted from the customer rebate. Table 1 sets out other price reductions agreed between the water companies and Ofwat in cases where mergers have been sanctioned.

As the number of independent companies within the industry has declined and the regulator has indicated reservations over the consolidation of WaSCs (Table 3), the potential for domestic capital market competition to elicit further efficiency improvements has been diminished. Only product market competition now appears to have the potential to give competition new momentum.

3. The Effect of Product Market Competition

The possibility of Inset appointments began a process that made the commercial and domestic water markets in England and Wales more contestable. This has had two main effects.

First, companies have introduced large-user tariffs, for potable water, waste water and trade effluent. The numbers doing so have increased slowly as the procedures for Insets have become less cumbersome in the wake of the Competition and Service (Utilities) Act 1992. In 1993–94, North West and East Surrey pioneered separate tariffs for a class of large industrial customers. Anglian, Severn Trent and Essex & Suffolk followed in 1994–95. In these and other cases, revisions to the tariff structure were made before the first Inset appointment had been confirmed. Clearly, the threat of competition had an effect on the companies and led them to modify their behaviour. As at May 2000, all but two companies operating under separate licences had large-user tariffs for water. Seven of the 10 WaSCs offered large-user waste water tariffs and four offered lower tariffs to large trade effluent customers.

All of these tariffs are structured so as to avoid giving customers the incentive to waste water. Most operate with a high fixed charge and a low volumetric rate, whilst the minority have a lower volumetric rate for all consumption over a certain threshold. Ofwat’s key operating principle is that prices must not be driven below the long-run marginal costs of supply, which include incremental capital costs (see Ofwat (1997)). Prices, in other words, must reflect costs imposed at the margin.

The second effect of product market competition has come about as a direct result of the introduction of large-user tariffs. By 1999, Ofwat judged that the market for large users was sufficiently contestable to enable it to remove them from the regulated tariff basket. The licences of all companies except Sutton and East Surrey Water were amended to remove customers using not less than 250
megalitres per year from the tariff basket with effect from 1 April 2000. The same licence modification applies to Sutton & East Surrey from April 2001. Ofwat explained the decision in the following way:

Taking large users out of the tariff basket means that companies cannot automatically recoup from other customers lost revenue arising from reduced charges to their large users. These large users are part of a competitive market that does not require the same degree of regulation as other groups of customers. Notwithstanding this, companies must ensure that charges to these large users should not be unduly preferential or unduly discriminatory. They must also ensure that they are not acting anti-competitively.

Ofwat, 2000b, p. 60

Removal from the tariff basket does not mean, therefore, that these prices will completely escape Ofwat’s regulatory control.

4. Regulatory Involvement

One of the ironies of Ofwat’s duty to facilitate competition has been the growth in the scale and scope of its involvement with the industry and therefore its size (Table 5). The amount of information gathered for monitoring purposes has grown unremittingly as the suite of performance indicators has expanded, placing a particularly heavy burden on the smaller companies. In addition, further substantial informational demands are made as part of the Periodic Review process every five years.21

It may be argued that an early expansion of regulatory activity was necessary to take control of an industry that was exploiting the generous post-privatisation regulatory settlement. Much early groundwork was also necessary to put in place robust and reliable reporting systems that would deliver timely information of a high quality. Nevertheless, there is little evidence to suggest a scaling-down of regulatory activities in the near future, which would be the logical concomitant of increased competition. Initiatives such as the removal of large-user tariffs from the tariff basket, although symbolically important, have not, apparently, turned the tide of regulatory expansion.

<table>
<thead>
<tr>
<th>TABLE 5</th>
<th>Ofwat Staff</th>
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</thead>
<tbody>
<tr>
<td>Number of staff</td>
<td>51</td>
</tr>
</tbody>
</table>

Source: Various Ofwat Annual Reports.

21 In its evaluation of the 1994 Periodic Review, Ofwat reported that the companies had noted an incongruity between the volume of data they were asked to submit and the information supplied by Ofwat to support its decisions.
IV. THE SCOPE OF AND PROSPECTS FOR COMPETITION

Over the last 10 years, most regulatory effort has been invested in the development of the comparative and capital market forms of competition. Such initiatives are now largely played out, and, with the passing of the Competition Act 1998, the focus of attention has shifted towards product market competition. As yet, however, barriers to entry remain high in the industry, and the opportunities for this form of competition are still rather few and far between.

The government and Ofwat, believing that only product market competition now has the potential to give competition new momentum, have sought to nurture this tender plant carefully. As in the gas and electricity industries, competition has been rolled out in stages, starting with the largest customers. The recent lowering of the Inset threshold indicates a willingness to follow this pattern, gradually extending the benefits of choice to smaller users. To date, there has been no mass switching of supplier by customers. But the potential for switching has undoubtedly focused corporate minds, prompting water companies to introduce new tariffs tailored to suit large users. Nevertheless, it remains uncertain whether customers will switch or threaten to switch supplier in sufficient numbers to generate critical mass to ensure that the momentum of product market competition will be preserved.

Undoubtedly, the survival chances of product market competition were boosted by the Competition Act 1998 (CA98). This and the associated debate over common carriage have led to an important change in attitude within the industry towards competition in general:

Even as little as two years ago, most water companies adopted a neutral or defensive attitude to competition. In particular, the concept of competition through shared use of networks, which had been so significant in electricity and gas, was not actively considered in water. ... The consensus seemed to be that there would never be a significant level of market competition in the water industry. Now there has been a marked change in attitude. More companies positively seek out competitive opportunities. ... The introduction of CA98 has been significant in changing attitudes. It has strengthened considerably the legal powers available to the Director to prevent abuse of a dominant position and other anti-competitive behaviour. It has been a catalyst for the development of common carriage by putting incumbents at risk of abusing a dominant position if they refuse to share the use of their networks with potential new entrants, or offer unreasonable terms.

Ofwat, 2000j, pp. 5–6

In the near future, the main competitive opportunities lie in two areas: first in the development of common carriage arrangements. In June 2000, Severn Trent was the first company to put its full access code into the public domain. Since then, others have followed suit, and legislation is currently being discussed regarding a sector-specific framework to encourage the development of common
Second, competitive opportunities lie in the establishment of a system of abstraction licence trading. Again, this initiative is at a relatively early stage of development; however, there is a commitment on the part of the Department of the Environment, Transport and the Regions to its implementation (Department of the Environment, Transport and the Regions, 2000a and 2000b; Ofwat, 2000i).

Beyond that, it is possible to speculate on more radical initiatives implying industrial restructuring. Specialist companies may emerge: network companies, supply companies and resource companies. Each of these could be individually licensed, with licences being sold on the basis of franchising arrangements. Time-limited Inset appointments could be offered in this way at an early stage, thereby increasing competitive pressure within the industry. In these and other ways, the regulatory burden may be lightened as competition takes root.

Just before his retirement as Director General of Water Services, Ian Byatt reiterated his confidence in the competitive process. He noted also that Ofwat's role must continue to evolve in response to changes in the competitive environment: 'Ofwat is moving from being a regulator to also being a competition authority, matching the changes in the industry' (Byatt, 2000, p. 6). That competition is now seen as an ally of regulation and a fact of life for water companies in England and Wales is due, in large part, to his personal commitment to the cause.

Restructuring the Industry

Although the regulatory functions of the RWAs were not inherited by their successors, the WaSCs were privatised largely intact as vertically integrated regional monopolies in 1989. This privatisation settlement was not as radical as that suggested by authors such as Vickers and Yarrow (1988):

As a matter of general principle public policy should seek to isolate the natural monopoly elements and to prevent the firms entrusted with these activities from extending their monopoly powers into other areas. By limiting the degree of vertical integration, extensive use of franchising and contracting out would therefore serve to expand the domain of economic activity in which effective competition can be introduced.

Vickers and Yarrow, 1988, p. 404

Restructuring of the industry in the short run was effectively precluded by the issuing of 25-year licences and the requirement for 10 years’ notice to be given if these were not to be renewed. The first opportunity for such notice to be given is 2004.

In order to isolate natural monopoly elements of the industry and to introduce competition into other areas, a case may be made for breaking up the 10 WaSCs, first along functional lines. Littlechild (1986) noted that there were, in fact, two separate distribution systems — water and sewerage — which had developed
independently. What little empirical evidence exists on the relative performance of single-function and integrated suppliers suggests that the economies of scope derived from integration are not of decisive importance from the point of view of industrial structure.\textsuperscript{22} The comparative performance of many of the WoCs in the English and Welsh industry over the last decade would appear to support this observation.\textsuperscript{23}

Within these broad functional divisions, a further unbundling may take place. For water, the abstraction and treatment functions may be separated from distribution. For sewage, collection may be separated from treatment and disposal. In general, the costs of the abstraction and treatment of water and of the treatment and disposal of sewage are relatively low in relation to the transport costs for treated water and untreated sewage. The point was made in the Ofwat Annual Report of 1994 in relation to the bulk pricing of water:

Ofwat does not believe that unit charges should be lower for business customers merely because they use a large amount of water. There are not believed to be significant economies of scale involved in the abstraction, storage and treatment of water. There may, however, be economies of distribution which relate to the delivery of large quantities of water to a single customer or a group of customers.

1994 Ofwat Annual Report, p. 40

Clearly, by dividing up previously integrated functions, there is a danger of dislocation and vastly increased transactions costs due to a lack of co-ordination. Consequently, there is a case for continuing to organise the industry under the integrated river basin management principle, allowing the water resource profile to influence industrial structure. Generally, however, sewage operations may be organised on a smaller, more local, scale than water, as economies of scale are exhausted at a lower level for sewage transportation, treatment and disposal than for water abstraction, treatment and distribution.

To maximise the degree of competition within each area of the industry, the following steps may be taken. First, the water and sewerage networks may be separated from other functions, divided up along regional lines and the operating franchises auctioned. Given the more localised sewerage networks, the expectation would be for several sewerage franchisors to operate independently within one regional water franchisor’s area. Second, water and sewage treatment functions may be unbundled and management concessions for individual works or groups of works auctioned in a similar way. This solution would have much in

\textsuperscript{22} However, Hunt and Lynk (1995) (see also Lynk (1993)) found that economies of scope were sacrificed by separating the regulatory function from the RWAs at privatisation. The related empirical literature on the effect of ownership on the relative efficiency of water utilities is, however, inconclusive (see, for example, Bhattacharyya, Parker and Raffiee (1994) and Bruggink (1982)).

\textsuperscript{23} An overall performance assessment is given in Ofwat (1998a, Figure 1, p. 4). The two best-performing companies for 1997–98 were WoCs.
common with the French concessionary system in which local municipalities remain ultimately responsible for services and the ultimate ownership of the fixed assets (Sawkins and McMaster, 1997). Third, functions such as pipeline construction, mains connections, maintenance and billing might also be separately contracted out. Given the strict environmental standards imposed on all aspects of the industry’s operation, any deterioration in service quality would be identified quickly, allowing remedial action to be taken (McMaster and Sawkins, 1993), the ultimate sanction being the replacement of a defaulting franchisor.

All these developments would facilitate comparative competition by increasing the number of independent operators. There would remain a need for economic and environmental regulatory authorities, however, to continue to ensure the industry operated within statutory limits.

V. CONCLUSION

Despite unpromising beginnings, the scope and extent of competition in the English and Welsh water industry have widened steadily during the last decade. Overall, progress has been slow, symptomatic of Ofwat’s legislative duty to facilitate rather than promote competition. Nevertheless, the Director General has developed the policy in the face of opposition from water companies, and has succeeded in securing identifiable and measurable benefits for customers, particularly through his operation of comparative competition.

Working within its present statutory limits, the greatest competitive opportunities remain for Ofwat in the field of product market competition. This includes exploring the ways in which common carriage might be facilitated, arguing for a reduction in the Inset threshold yet further and encouraging potential entrants to develop and exploit new resources. An appropriate litmus test for the success or otherwise of this form of competition will be whether there is a move away from arbitrage (brokerage) arrangements to innovation in supply.

At present, the industry remains highly regulated, complex and difficult to enter. Regulatory monitoring is extensive and burdensome, particularly for the smallest water companies. One of Ofwat’s outstanding challenges for the next decade, therefore, is to examine the means by which this regulatory burden might be lightened without compromising its effectiveness, and thereby encourage potential entrants to compete with incumbents. Contestability may well be an unattainable goal for the English and Welsh water and sewerage industry. Greater competition is not.
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