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## Water Privatization and Regulation in England and Wales

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**In 1989, England and Wales embarked on one of the first modern privatizations in the water sector. The government sold ten publicly owned water companies—encompassing water and sewerage assets and operating licenses—and set up a new, independent sector regulator. These reforms have delivered an impressive volume of new investment, full compliance with the world’s most stringent drinking water standards, a higher quality of river water, and a more transparent water pricing system. But experience during the first regulatory cycle also reveals some lessons about the information requirements of effective regulation and the risks to the political independence of the regulator. This Note reviews these lessons.**

Before 1989, the water industry in England and Wales consisted of ten publicly owned water authorities and twenty-nine privately owned water supply companies. The government argued for privatizing the publicly owned services on two counts: privatization would result in more efficient companies, and private owners would fund the investments needed to meet tighter water quality standards and make up for past underinvestment.

The government split the water authorities, transferring the main environmental regulatory responsibilities to the National Rivers Authority and converting the remaining water and sewerage services into private companies to be sold on the stock exchange. The government also set up a new regulatory agency, Ofwat, which sets the maximum prices that water companies can charge. The agency’s primary duty is to ensure that the companies can finance themselves by earning a reasonable rate of return on capital. One of the major objectives in the new regulatory design was to avoid political interference in the regulatory process. Built-in checks and balances, such as financial autonomy for the sector regulator and status

as an independent government agency, were supposed to limit political discretion in policy and investment decisions. To further strengthen independence, the regulator was given broad discretion in interpreting the law, implementing general rules, and modifying company licenses.

An important innovation of the British system of economic regulation is the use of price caps. These caps set maximum prices for all water companies, in five-year cycles. A second innovation—the use of yardstick, or comparative, competition—addresses the problem of the water companies’ monopoly over information the regulator needs to do a good job. Through performance comparisons, Ofwat derives yardsticks that it can use to assess the efficiency of water companies. Less efficient utilities are given more demanding efficiency targets and are expected to come up to the standard set by the best performers.

Because large investments were necessary and water privatization was new territory for the government, the privatization was done on terms favorable to shareholders to ensure that the pub-





lic flotation would succeed: the government wrote off most of the debt on the public companies' books. (As a result, the government's costs ended up exceeding its revenues: the direct net effect of the sale of the companies was a deficit of about £1.3 billion.)

The reforms also affected the twenty-nine privately owned water supply companies. Before the reforms, these companies had been subject to statutory controls on profits, dividends, and borrowings. In 1989, they were brought under the same regulatory regime as the privatized water authorities and were able to convert themselves into public limited companies. By the end of 1996, after a spate of mergers and takeovers, only nineteen such companies remained.

### **Impact on investment, operating efficiency, and profits**

With regard to the government's two objectives—investment and efficiency—the results have been mixed. By volume, the government's investment targets have been realized. In the six years after privatization, the water companies invested a massive £17 billion, compared with £9.3 billion in the six years before privatization.

But there are signs that not all this investment has been efficient. First, because the price cap worked more like rate-of-return regulation during the first regulatory cycle (1989–94), there may have been incentives to gold-plate investment plans. Second, the separation of economic and environmental regulatory responsibilities made creating the right investment incentives more difficult—especially given customers' low willingness to pay for the water quality improvements mandated in European Union directives. Establishing closer coordination between these two regulatory functions earlier in the reforms could have resulted in clearer and less conflicting investment incentives.

Third, because Ofwat's mandate is limited to ensuring the financial viability of the utilities, it does not take the public costs and benefits

of water policies sufficiently into consideration when assessing companies' investment programs. The most striking case in point is water metering for residential customers, on which almost no progress has been made. Although in the medium to longer term metering is desirable as a means of managing water resources more effectively, its high up-front costs have led many water companies to drag their feet. Finally, since privatization, investments in the regulated water business have occurred in a cycle that corresponds with the regulatory cycle. This pattern tends to distort the timing of investments and weaken utilities' incentives to generate cost savings toward the end of the regulatory cycle.

Real sector operating costs per unit of water actually increased slightly during the first regulatory cycle, though staff numbers fell. The companies attribute this rise in operating costs to the additional investment to achieve higher water quality standards. Another reason for the higher costs could have been high transfer pricing between regulated and unregulated parts of the business (such as laboratory and consultancy services). As long as cost pass-through is allowed, a holding company can increase its profits by pricing such internal transactions above cost. The regulator has taken steps to prevent these cross-subsidies and requires companies to disclose more information on transfer pricing. But the main factor in the higher costs appears to be the generous first price cap. Utilities apparently had few incentives to reduce their operating costs. The regulator tightened the price cap considerably in 1995, however, so it is likely that companies will reduce their operating costs during the second regulatory cycle (1995–2000).

The investment boom has led to significant price increases for consumers. The real average residential water and sewerage bill has gone up by 28 percent since privatization. The regulator has accepted that there are large differences among water companies and has calculated different price caps. As a result, there are large variations in average water and sew-

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erage bills among utilities. For the average household, water and sewerage are still affordable but low-income households have difficulty paying for these services.

At the same time that prices were rising for consumers, the profitability of the water and sewerage companies soared, creating a serious public backlash against the reforms. If these profits are adjusted for the £5 billion debt write-off, the increase is less spectacular, though still positive.

### Regulatory lessons

It is still early days for the new regulatory model. But the experience so far has shown that the tools of price cap regulation are both complex to administer and critical: if the price cap is set too high, the utilities will earn excess profits; if it is set too low, underinvestment will result. As mentioned, in the first regulatory cycle, price cap regulation did not differ significantly from rate-of-return regulation. The second cycle will be a truer test of the mechanism. But setting the key parameters in the mechanism—using financial prices, defining the price adjustment factor, choosing the method of asset valuation—has been complex and time-consuming. The price cap also suffers from being grafted onto the inefficient tariff structure of the original publicly owned utilities—a tariff regime that was not based on water consumption levels and did not provide an incentive for efficient water use. Ideally, the rate structure should be revamped before privatization—after privatization, it is hard to revise.

Even though price caps are said to reduce the possibilities for cross-subsidization, the experience so far shows that price cap regulation has not eliminated the incentive for companies to selectively alter prices. The tariff basket formula used by Ofwat still provides the companies leeway for price discrimination between rate categories while they keep the overall price for the tariff basket below the price cap. The companies apply the price cap to an average price for a group of services or rate

categories. Using moral suasion, the regulator has insisted on rebalancing tariffs, but many of the inefficiencies in the rate structure remain. In most companies, for example, households with water meters still pay higher effective rates than those without meters.

The water companies' performance shows how important it is to provide the right incentives. To do this, the regulator must have access to good information. But the water companies' control over information affords them opportunities to manipulate the information they make available to the regulator. Yardstick competition was supposed to address this problem. Under yardstick competition, the regulator sets price caps on the basis of comparative data from similar utilities in the United Kingdom or abroad. Efficiency levels for inputs, unit costs, and quality of service are set on the basis of lowest-cost, highest-service standards. Yardstick competition is most effective when firms face similar conditions. Ofwat's calculation of individual price caps for the water companies suggests that each company operates under different conditions. So far, Ofwat has not been very successful in developing robust measures of relative performance. When used, relative performance indicators have resulted mainly in broad groupings indicating below- or above-average performance. Building a reliable database and related analytical tools has proved a regulatory challenge requiring much time and effort.

The water companies' information monopoly increases the risk of regulatory capture. Aware of this risk, Ofwat has stepped up its efforts to prevent regulatory capture by expanding the scale and scope of regulation and by applying more elaborate tools for monitoring. For example, it is using expert engineering appraisals, through capital expenditure certification and through cost reductions based on the results of econometric models. But econometric modeling suffers from lack of sufficient data to run regressions, problems in quantifying explanatory factors, and difficulties in assessing an appropriate charge for capital assets. Monitoring the performance of private utilities to ensure



the effectiveness of price cap regulation has become an elaborate process that increasingly resembles Treasury scrutiny and control of utilities under public ownership. This can in the longer run result in excessive control, which could erode utilities' management autonomy.

The regulator has broad discretionary power to modify the licenses of a company, thus altering the fundamental regulations that apply. This discretion, combined with the importance in the British model of the individual regulator's personality, adds up to a regulatory environment that is less stable than often presumed. At the same time, and despite efforts to insulate regulation from political interference, politics remain an important influence on the orientation of regulation. Although price caps are supposed to be reset every five years, the water regulator intervened twice during the first regulatory cycle, forcing two interim price reductions—clearly under political pressure. The current debate about profit sharing and the introduction of competition in the water industry is inspired mainly by political considerations. As a result of the perceived instability of the regime, investors require higher risk premiums and thus higher rates of return.

The degree of regulatory discretion has led to criticism about the regulator's lack of accountability. There are mechanisms to challenge regulatory decisions, but only a few companies have used them, suggesting that utilities have little confidence that they can overturn Ofwat's decisions. There is evidently a tradeoff between accountability and maintaining an independent regulator. Although the independence of the regulator is important, the balance between independence and accountability needs to be shifted in favor of the latter so as to reduce the instability of the regulatory system.

### Conclusion

The England and Wales privatization rates as a partial success over the first regulatory cycle. It has delivered the large investments needed to meet higher water quality standards, but it

is still too early for a verdict on efficiency because the first price cap was not tough enough to force companies to reduce operating costs. The experience shows that to set appropriate price caps, the regulator needs a sound and reliable database and effective tools to analyze the data. Building the database and assembling the necessary tools takes time and effort. The second regulatory cycle should be a better test of price cap regulation. But the early difficulties have had costs. The combination of steep tariff increases and sale terms that were too favorable for shareholders and firms has created credibility problems for the reforms. Public resistance to the price rises associated with privatization has made the regulatory system more susceptible to political interference—against which the built-in checks and balances have not provided sufficient insulation. The experience has also shown the need for better coordination between economic regulation of the water companies and such government functions as water resource management and support for lower-income households.

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