ANEA Conference on Regulation
Naples
October 4 2012

Incentive regulation in the UK water sector, and other recent developments

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The England and Wales water sector

- Privatised since 1989, as regional monopolies
- 10 large water and sewerage companies, and 11 (smaller) water-only companies: Thames water has 8.5 million customers
- Very high levels of investment, especially for environmental improvement (€6-7 billion per year from 1989 to 2014)
- Only 30% of homes have water meter; the remainder pay a flat rate for their supply!

The regulatory framework

- An economic regulator (Ofwat), an environmental regulator and a Drinking Water Inspectorate
- Five year price cap periods
- Ofwat uses comparisons of firms’ performance to judge efficiency (‘comparative competition’)
- Substantial outperformance of targets in early years
- Real prices rising to cover capital expenditures
- Significant regional variations in bills

The logic of incentive regulation

Incentive regulation sets a trajectory of prices into the future

This detaches prices from costs and gives firms a reward for efficiency which is absent in cost-plus pricing

Prices usually are allowed to rise by the rate of inflation (CPI), to which a sector-specific additional component (X) is added, to reflect cost factors special to the sector

This component has generally been positive in the England & Wales water sector, to cover high investment costs

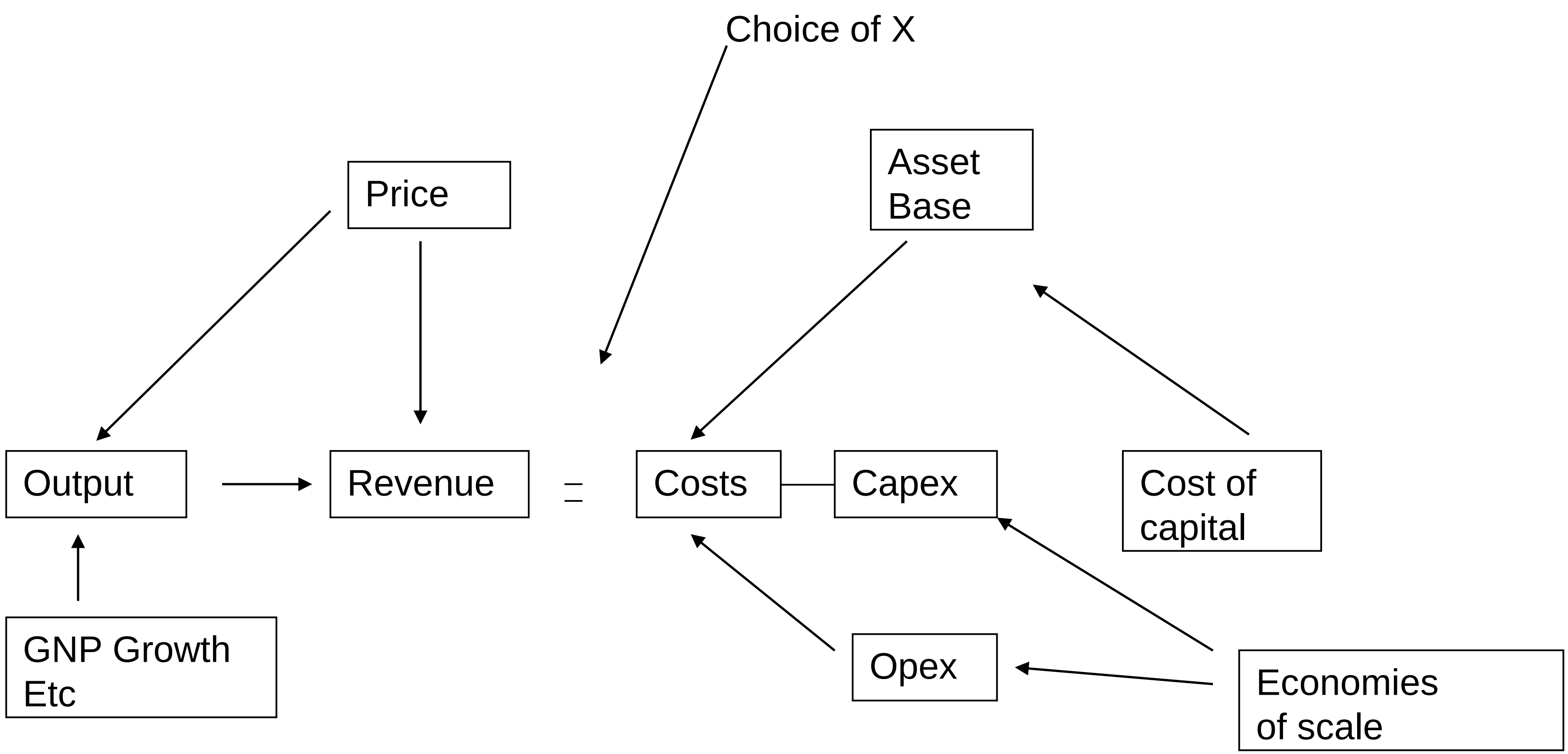
The ‘building blocks’ approach to setting a price cap

This operates by finding a trajectory of prices which allows the firm to cover its costs (including an appropriate rate of profit on capital employed) over the price control period

The level of price is set to allow revenues to cover efficient costs (operating costs and capital costs)

If the firm can beat the cost target, it earns temporary excess returns; the regulator then tightens the cost target in the next control period

The financial model of the building blocks approach



Assumptions in the 'building blocks' approach

Demand growth – easy to forecast in water

Efficiency gains – how far is each firm from the 'efficiency frontier,' and how fast is the frontier moving out?

What is the costs of capital to the companies, and what should their capital structure (mixture of debt and equity) be? Note: if the cost of capital is set too high, and prices are set on the basis of projected costs, firms will prefer choose to make capital-intensive investments themselves and may shun less capital-intensive options

If the regulator gets these 'wrong', customers may pay too much and resources will be wasted

The life cycle of ‘building blocks’ regulation

Start with a simple system
Then observe and correct dysfunctional behaviour (‘gaming’) by adding more features. [Example: if a firm cuts costs in the last year of a price cap, the regulator will cut its prices almost immediately. Hence firms delay innovation until the start of the following period.]
As the regime becomes more and more complex, the regulator seeks to revert to a new simpler model.
This cycle can be observed in Ofwat’s behaviour. It is revising the regime to make it simpler and more focussed on outcomes which benefit end users.

How well has the regime works?

There are two types of static efficiency

i) productive efficiency: do firms use their inputs efficiently?

ii) allocative efficiency: do firms use the right inputs to minimise costs?

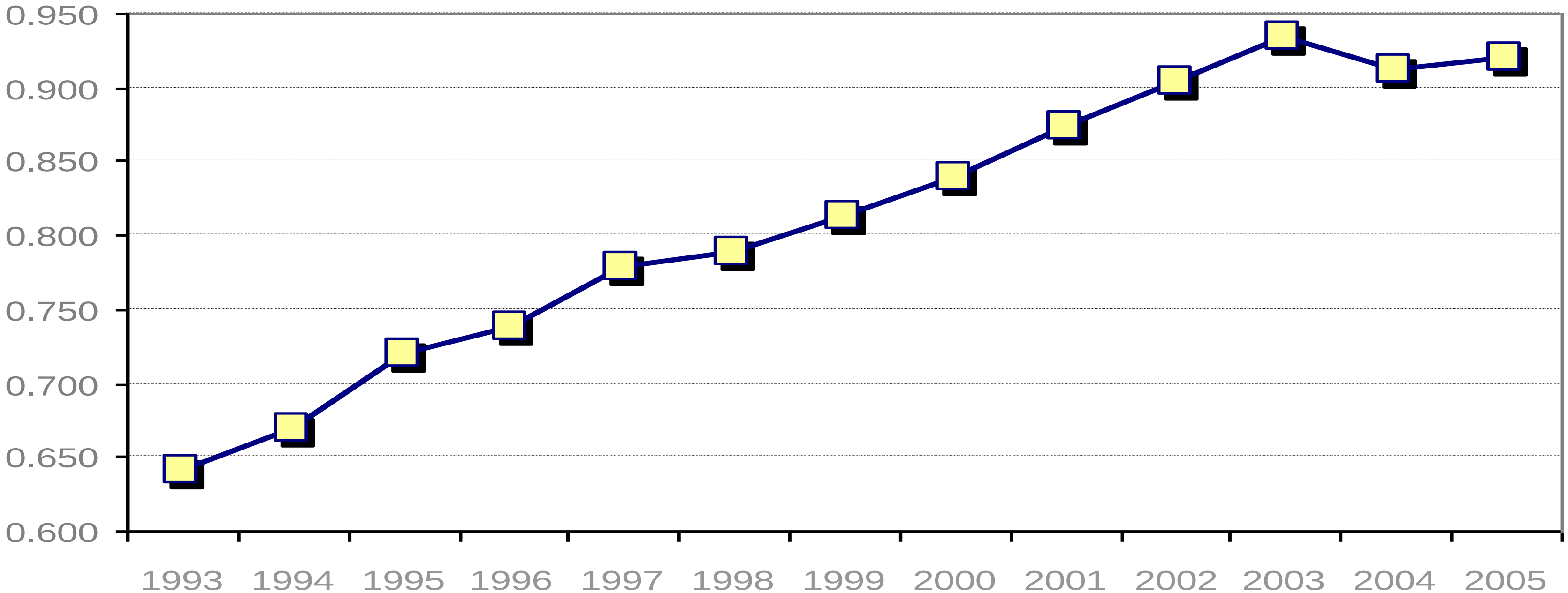
At privatisation, the sector was deprived of capital, so allocative efficiency was low

Both of these can be measured statistically across a sample of companies.

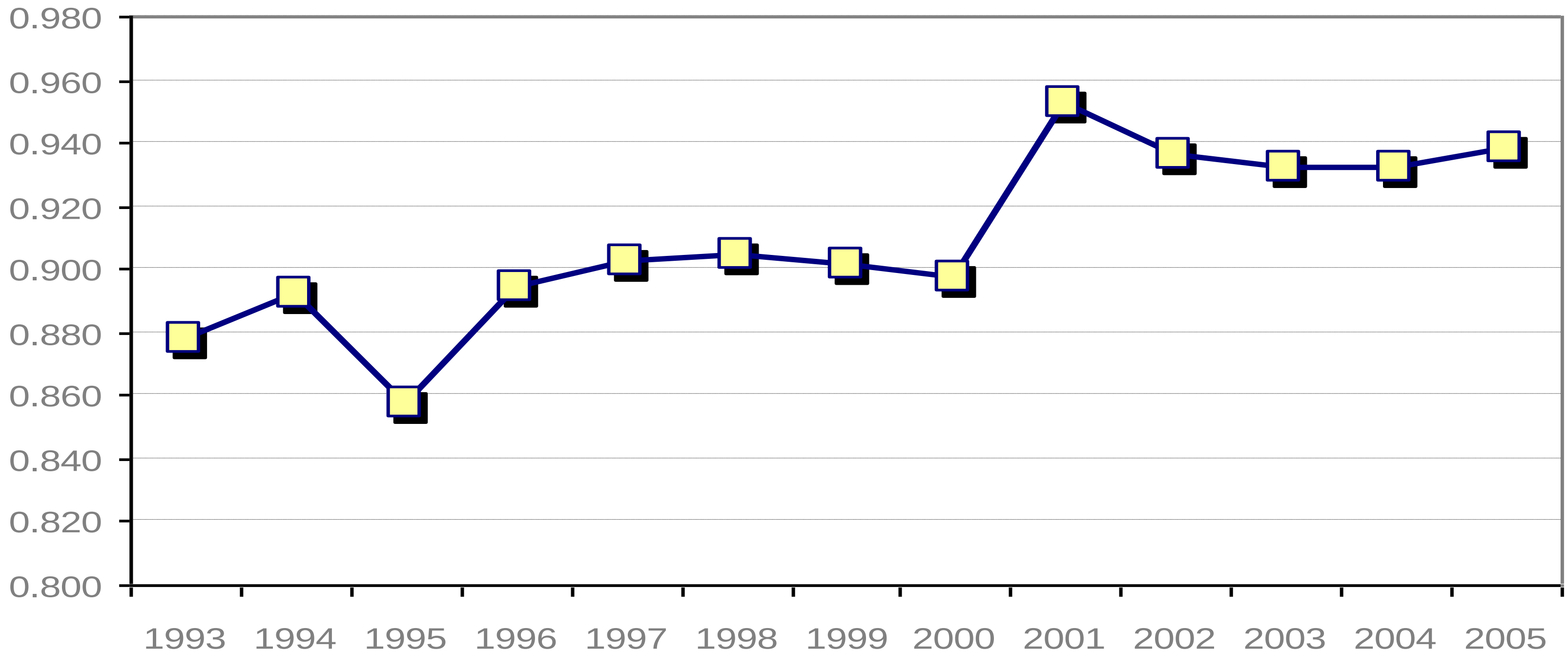
This was done in a study based on data from 1989 to 2007

* *F Erbetta and M Cave: Review of Network Economics, December 2007*

Allocative efficiency improved, as firms invested heavily and cut employment



Productive efficiency was flat, except for a jump in 2000



What happened in 2000?

- The first two price controls (1989-1999) were generous and easy to beat
- In 1999, Ofwat imposed a tough control which upset all the companies
- This seems to have caused more effort to be put into productive efficiency
- After this effort, almost all companies made adequate returns.

Is incentive regulation enough?

- The experience discussed above shows that incentive regulation and comparative competition can do something to enhance efficiency
- But is it enough? Especially when climate change imposes a need for more innovation
- In other regulated sectors, direct competition has yielded benefits. Why not in water too?

Moves towards direct competition

- Following an independent review, the UK government has published a draft law which will introduce competition into the water sector in England & Wales; it already exists at retail level in Scotland
- The proposal covers all aspects of the value chain.

Retail competition

- All water companies will have to make a wholesale product available to their competitors, for onward sale to **business customers** only
- This system has also been tried in Scotland, where competition has driven prices down and may have improved service (single bills etc)

Do business customers want choice and competition in water?

• Are you likely to consider changing supplier?	23%
• Quite likely to consider changing	38%
• Neither	11%
• Quite likely to remain with present supplier	21%
• Likely to remain with present supplier	6%

Research by the Consumer Council for Water

Upstream competition

- Encouragement of trade across company boundaries to deal with increasing water shortages in the South. This requires tendencies towards self-supply to be ‘overcome’ boundaries
- Allowing new entrants to supply water into the network, for sale to retailers. This involves an access (common carriage) regime for the distribution network.

Abstraction reform

- Many rivers are over-abstracted, or over licensed, and abstraction prices do not reflect scarcity valuations
- In due course, existing abstraction rights may be withdrawn and turned into a tradable licences, possibly also subject to scarcity administrative prices

Conclusion

- The structure and ownership of the UK water sector differs from that of most countries
- Since privatisation in 1989, incentive regulation has had a major impact on operating costs
- Problems remain in providing incentives for capital projects and innovation remain
- The government intends to address these by introducing competition
- At the same time it will make mergers in the sector easier to accomplish