The case for regulatory reform

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Introduction

It is tempting to think that, after two decades of experience, regulation might have moved from the controversial and novel, to the tried and tested, that controversy might have died down, and that the subject matter might have become merely technical. Some, indeed, have been seduced by this idea, but a quick reality check reveals that there remains much controversy and debate, and that the issues at stake are profound. Whether regulation can deliver a framework for investment in the infrastructures of the future remains an open question, and in the meantime regulation in one form or another has gone up the political, industry and public agendas. Far from withering away, regulation has continued to grow over the last two decades.

The reason why regulation has not withered into a narrow technical discipline, and become predictable, is because of a fundamental misconception about its rationale. Regulation is not a timeless technical activity, in which there are right and wrong answers. And, furthermore, the British system has not reached a state close to perfection which will now last indefinitely. On the contrary, regulation is, in an important sense, time-dependent. Different periods throw up different objectives and challenges, and what suits one period is not necessarily best for another.

History matters, and in the utilities the most important aspects of that history are the changing emphasis amongst the multiple objectives, the inherited stock of assets, and whether the industries are in investment phases or in excess supply. Thus, in considering whether regulation is currently fit for purpose, we need to start by asking what the current purposes and priorities are and, in looking at particular industries, we need to see how these translate across to the capital stocks they possess and how far these are from the optimum.

In this chapter, it will be argued that, in all the main utilities, the objectives have indeed changed markedly since the 1990s away from an emphasis on pure, and narrow, economic efficiency, and that there has been an inevitable
rebalancing of the political influences (and a rejection of the idea that utility regulation has little or no political content). First, the objectives of climate change, security of supply, and social access, and the attempts to graft these onto the economic regulation framework are reviewed. Next, the current investment context is examined, and the extent to which the regulatory regime, which has proved successful at sweating the assets in the 1980s and 1990s, is still appropriate for investment in the first decades of this century. The financial implications of the investment requirements of the decade ahead, and the implications for regulation of the exhaustion of the balance sheets of the privatised companies and the emergence of highly geared structures are then assessed. Finally, a number of possible reforms are set out that might build on the existing system, but in a way that allows an evolution towards the new objectives and investment needs.

**Changing objectives**

In the 1980s, when utility privatisations were being driven through by the Conservative governments, the objectives were fairly simple and straightforward. Privatisation was to undo the inefficiencies of public ownership, bringing in commercial management incentivised by the carrot of profits, and controlled by the stick of competition. Competition was to gradually take up the slack from regulation, which was always a second best, and over time regulation could wither away for many—and perhaps most—of the utilities. Where natural monopoly remained, the takeover mechanism would challenge management, and regulation would cap prices, mimicking a competitive market in which all firms are price-takers. For these residual areas, profit maximisation would be achieved by cost minimisation, and RPI – X regulation was the means of providing companies with what were, in effect, fixed-price, fixed-period contracts.

There remained the problem of investment, and the desire to free the utilities from what was perceived as the dead hand of the Treasury and short-term public expenditure constraints. This was to be achieved largely through borrowing, and the utilities were typically (though not always) privatised with low gearing, and current customers (and in practice also voters) would not have to pay up front for that investment. Over time, it was assumed that the balance sheets would be sufficient to deal with the backlog of investment that the Treasury constraint had prevented from being carried out in the public sector. Then the utilities would return to steady-state, maintaining the assets through time.

This narrow conception of the objectives had certain consequences which in the 1980s and 1990s were disguised by the monies released by the companies as the efficiencies were reaped. It turned out that the efficiency gains were so great that the relative impact of making prices cost-reflective could be
accommodated by the overall fall in prices. Thus, the unwinding of the many cross-subsidies was masked, as the utilities were able to cut back significantly on their labour forces [helped along by the application of IT to networks].

The social objectives, which had been important in utilities since at least the post-Second World War settlement as part of the welfare state, and had been subsumed into cross-subsidies within the state-owned statutory monopolies, had not, however, gone away. An inclusive society was one in which all citizens would have access to basic social primary goods, which included water, heating, telecommunications and transport. This notion clashed with the notion of consumers, whose consumption was driven by the willingness and ability to pay for these services. A new Labour government in 1997 brought in a different distribution emphasis, and soon fuel poverty objectives were set. Water poverty was an increasing concern as the real cost of water rose, especially in the recent water periodic review, and broadband access has been a prime political issue in rural areas.

Adding in the social objectives meant that regulators had to temper cost-reflective pricing, and this was made more difficult in energy when it was (mistakenly) decided to put the social obligations on supply rather than distribution. By placing the burden on supply, the conflict between competitive pressures to make prices cost-reflective and the desire to take account of people’s ability to pay came into sharp relief. It was also a problem in postal services where the universal service obligation sits uncomfortably with liberalisation, and in telecommunications, where BT faces competitors without such requirements. While the incumbents maintained overwhelming dominance, in practice the costs of social subsidy could be absorbed, and indeed act as a regulatory handicap to help entrants in. But over time it has proved less sustainable.

Added to the social dimension have been the growing importance of climate change and a greater emphasis on environmental impacts. At one level, these led to major public policy objectives being played out in the network utilities. In transport, for example, the 1998 White Paper on the Integrated Transport Strategy proposed a major switch from road to rail, and put an effective end to the idea that the railways would gradually become subsidy free. Instead, the Treasury became the permanent marginal source of finance. In energy, the Renewables Obligation was grafted onto the industry, with an explicit target for a reserved share of the market. This would in turn require the networks to invest to facilitate such a large-scale programme of embedded generation.

These extra objectives did not sit easily with the regulators’ various primary duties to look after customers’ interests, to promote competition and to ensure

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that the functions of the utilities could be financed. As long as these were the primary duties, other concerns would be secondary, and there was no guarantee that regulators would take note, and in particular make the ‘right’ trade-offs between the objectives.

There have, in consequence, been various attempts to square the circle, notably through the Utilities Act, 2000. The basic idea is to cement in the new objectives, by giving `guidance’ to the regulators in respect of these other objectives, and to add in explicit new objectives, such as sustainable development.

None of these mechanisms has been wholly successful, and important tensions remain. Politicians have been reluctant to spell out the trade-offs for fear of offending particular political interests, and because they do not like to be seen to interfere with what is claimed to be ‘independent’ regulators. Regulators fear direct political confrontation, concerned that their independence will be legislated away, and often take their cue from select committees and other informal mechanisms. The companies themselves often try valiantly to bridge the gap, encouraged by politicians, and come up with schemes and initiatives that are presented as ‘sustainable’, part of ‘corporate social responsibility’, and such like.

The consequence is a lack of clarity which has real costs. None of the parties can be satisfied with the resulting trade-offs, and regulators are forced, implicitly at least, to make what are political judgements. There is much behind-the-scenes lobbying, and the exertion of the subtle arts in applying political pressures. Regulatory and political risk is higher than it need be, and this influences both the cost of capital and the timing and coordination of investments.

**Changing priorities: from asset-sweating to investment**

Alongside this shift in objectives to an ever more complex set of trade-offs, there has also been a shift from the task of pushing though operating cost efficiency towards investment. For all of the privatised industries, the bulk of the operating efficiencies and catch-up are probably now exhausted, and the remaining gains lie in the publicly owned companies, such as the Royal Mail.

This shift towards investment is not a neat and tidy one. Some industries—like water—have had significant investment requirements from privatisation. In BT’s case, the very rationale for privatisation was the financing of the programme for updating its exchanges (the ‘System X scheme’). Others, like BAA, gradually took on more investment, culminating in the Heathrow Terminal 5 project. Even in the energy sector, which was in general excess supply, quite a lot of investment took place in building combined-cycle gas-fired power stations.
[CCGTs] as a deliberate act in creating competition to the dominant incumbents, and gas infrastructure has been added too.

But in most of these cases, the investment requirements could be fitted within the RPI-X framework with comparative ease. Capital expenditure (CAPEX) was in effect negotiated between the companies and the regulators, and placed within the five-year, fixed-price contract framework. Overall prices could be kept down because the falls in operating costs, plus borrowing against the ungeared balance sheets, could offset the CAPEX costs. A wonderful world was created in which customers could have both lower prices and investment.

By the turn of the century, this benign context was beginning to give way to a more stark set of trade-offs. The investment agenda was beginning to build up, as it became increasingly apparent that the infrastructure assets were increasingly not fit for purpose. Though it is beyond the scope of this chapter to give detailed quantitative estimates, it is worth surveying the broad scale of the new investment agendas.

In energy, almost all the assets are based upon carbon, in the context in which policy is to de-carbonise the economy, and in particular to reduce CO₂ emissions by 60% by 2050 whilst the economy is assumed to keep on growing at 2–3% per annum. This requires not only the replacement of the existing coal power stations, but also filling the CO₂ hole left as the existing nuclear stations close down. In a system dominated by old assets, the replacement cycle is now pressing. If, as government policy indicates, there is to be a substantial place for renewables and embedded generation, the configuration of the electricity grid—designed for large baseload stations—will need to be re-engineered to take power up from low-voltage and remote sources. As technical change brings in new technologies in the networks, storage and generation, the consequent investment requirements will grow.

Next in energy, there is the CAPEX challenge of the depletion of the North Sea and the growth of gas as the preferred fuel in the short to medium term for electricity generation. This requires new pipeline infrastructure and storage, and will be accompanied by the development of LNG assets and infrastructure.

In water, the assumption made in the 1990s that there was a backlog of CAPEX which had been held up in the public sector by Treasury constraints, which would take a decade to make up, and then the industry would return to a normal replacement cycle, turned out to be wildly optimistic. Instead, European Directives dictated an environmental programme to clean up the beaches and deal with urban waste water. Then came the Water Framework Directive. Together, these programmes have led to major increases in prices already, and there is little prospect of any respite, especially since the balance sheets are now exhausted. Moreover, a further medium- to long-term challenge looms: climate change and the need to provide more water resources. Large-
scale projects are already beginning to surface for new reservoirs, and Thames Water already has the Thames Tideway project under consideration to deal with sewerage.

The transport sector faces daunting CAPEX challenges. In the railways, the scale of the investment backlog was revealed after privatisation, and, contrary to the assumption made at privatisation that the railways would adjust to the level of spending consistent with what customers were willing to pay through the farebox, the scale of government support and associated borrowing has been very large. There is little prospect that this will diminish in the short to medium term. Demand growth for road transport continues to rise, despite the stated intention of the government to engineer a switch from road to rail. New private motorways, such as the M6 extension, more bypasses and other schemes are beginning to surface here too, as the policy of ‘predict, but don’t provide’ has replaced the old approach of ‘predict and provide’.

It is in air travel where the investment requirements have ratcheted up most in the last few years. A tripling of air traffic is now forecast through to 2030, and this will require new runways, terminals and all the surface transport infrastructure for passenger arrivals and departures, parking and connections. Air traffic control will also need continuous upgrading.

Finally, there is the new infrastructure for telecommunications and broadband. Although there was a major investment boom in the 1990s (and a crash afterwards), BT’s plans for a ‘21st Century Network’, based around broadband, indicate that there can be no assumption that there are already sufficient assets in place.

Though each industry has its own peculiarities, the aggregate scale of these investments is such that it raises significant questions for the regulatory regime as a whole. The common features of these examples are: that they will require real increases in prices; that the time horizon of much of the CAPEX is beyond five years; that most have big, lumpy capital enhancements; and that all arise in the context of balance sheets which are stretched. While RPI – X may well have suited a relatively low investment world with falling operating costs, and had the political virtue that falling prices could be announced regularly, it is hard to see how this sort of future investment challenge fits into the crude five-year periods with inflexible prices.

**Financing investment**

Changing objectives, making them more complex, inevitably raises political and regulatory risk, as politicians are reluctant to define the trade-offs. As the number of objectives goes up, the scope for opportunism rises too. Whereas, during the 1990s, the relevant importance of CAPEX was lower than now, and
therefore the cost of capital was less important, as CAPEX moves up the agenda, so too does the cost of finance. The trade-off between high-powered incentives to sweat the assets, which RPI – X in its original form focused on, and the cost of capital is getting sharper.

A further twist is given by the exhaustion of balance sheets, and hence the hard constraint for marginal additional borrowing. In the recent periodic review of the water industry, the regulator conceded that, as pro-forma balance sheets exceeded the (arbitrary) gearing assumed, and as interest covers came under pressure at the end of the period, more than £300 million of revenue should be provided over and above the cost of capital, set on the basis of the capital asset pricing model (CAPM). In electricity, an adjustment was also made for one of the regional distribution companies.

Although, in the total scheme of things, the amounts involved were small, these financial adjustments have a profound implication—that the cost of capital at the margin is not around 5%, but whatever level necessary to maintain interest cover within the bounds of an investment-grade credit rating. This will vary greatly from company to company, but in some cases may well be in excess of 10%. Rolling this forward to the next planned price reviews in 2009, the implication is that financial ratios take over the cost of capital calculation.

As with many incremental changes in regulation, little thought has been given to the wider ramifications of this adjustment. Why should utilities be paid a higher return than the cost of capital, and indeed much higher than comparative risks in some other areas of the economy? The answer goes to the heart of the bargain between the state and the private sector, which regulation in effect referees. In any other industry, if there were investment opportunities that yielded a return greater than the cost of capital, the companies would pursue a mixture of borrowing until the financial ratios bit, and then launch rights issues. Equity capital would flow in.

In utilities, the risks to equity are not, however, those of a normal marketplace. The equity is exposed to political interference and regulatory opportunism. However much politicians and regulators protest to the contrary, the facts speak volumes to investors. There have been ex post windfall taxes, shareholders have been expropriated in the Railtrack case, and the ‘rescue’ of British Energy left its shareholders very exposed. After the 1999 water periodic review, share prices stayed well below the value of the regulatory asset base for most of the period, only really recovering with the 2004 review. In practice, where difficulties have arisen, it is the debt-holders that the government and regulators have protected.

Neither government nor regulators have done anything substantial to upset this expectation. Indeed, as the balance sheets have been exhausted, the issue of systemic risk has arisen. One serious default could rumble through the
whole of the utility sector, jeopardising the investment programmes outlined above. Indeed, the government allowed the debt-only structures of Welsh Water and Network Rail to go ahead, in the latter case offering a guarantee.

Debt naturally lends itself to rate-of-return regulation. Banks and other bondholders cannot participate in capital appreciation: their concern is interest and getting their money back. An equity buffer is attractive, in that someone else can absorb the risk, but rate-of-return regulation allows for the best possible buffer—getting the government to commit to the customers picking up the bills through cost pass-through. The more rate of return the regime, the lower the risk, and hence the lower the cost of capital.

This can be seen in the consequences of the extra revenues provided in the water and electricity periodic reviews—in effect, customers are paying more up front for investment and investors are getting a higher rate of return. This is surely inefficient: rate of return is in effect pay-as-you-go for investment, but at a rate-of-return cost-of-capital. What we have now are elements of pay-as-you-go and returns in excess of the CAPM cost of capital. In consequence, not surprisingly, share prices have moved above the regulated asset base levels.

It should be immediately apparent that, while this is obviously sustainable—in the sense that investors will continue to lend debt to the companies to finance the investment—customers may not be happy to underwrite such an inefficient outcome. In 2009, the price increases that would result from the current approach, given the scale of the investment required, may trigger a political reaction.

Conclusions

The changing objectives, the high levels of investment and the setting of the marginal cost of capital off the interest cover provide a very different context for future utility regulation. It is far from obvious that small incremental changes will resolve the tensions that are embedded in the regulatory regime. That is the first conclusion which emerges from this chapter.

Fortunately, however, there are some practical solutions which may allow the existing RPI – X regime to be reformed in a way which might cope better with the new context. RPI – X is merely a rule for setting prices relative to inflation. All regulatory regimes set prices, and all have to take account of inflation. It is a very flexible headline rule, and capable of myriad different contents. It is the way the prices are derived, and revised, that matters. RPI – X could in effect be anything between a high-powered incentives rule and rate of return.

If government broadens the objectives, and if in practice governments do not define the trade-off, the consequences of this lack of clarity need to be reflected
through protection to shareholders, who have no ability to manage this kind of risk. Cost pass-through is the inevitable, second-best, implication.

Next, the time horizon can be adjusted to take account of the time profile of investments. There is nothing magical, or efficient, about a fixed five-year period. Multi-periods, ten-year periods and disaggregation are all possibilities.

Finally, there are a number of ways of unbundling the financial framework. New equity investment is more expensive than financing the regulatory asset base. The cost of debt for what are effectively quasi-guaranteed returns is rather different than the risk capital required for Terminal 5, the Thames Tideway or new motorways. Although the idea of splitting up the cost of capital has difficulties, it is already implicit in several regulatory regimes, which give higher returns to marginal investments, and it must be balanced against the inefficiencies of the existing approaches.

These are but a few examples of the sorts of reforms which could help to address the new context set out in this chapter. The water and electricity distribution reviews of 2004 are probably the last where the issues can be fudged at the margin. The political tolerance to another round of large price increases in 2009, which are implied by rolling forward the approach in the 2004 review to financial ratios, may be limited. If the politicians react, and try to lean on regulators to hold down prices, something will have to give. It will probably be investment—and hence we will have come full circle back to the political controls of investment. If the industries were at a point in their investment cycles where the demands were low, this might not matter too much. But at stake this time is the low-carbon economy and security of supply in the energy sector, diffuse pollution and new sources in the water industry, new runways in air, and broadband in telecommunications and IT.

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