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# The New Regulatory Agenda

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SOCIAL MARKET FOUNDATION  
January 2004

First published by The Social Market Foundation, 2004

The Social Market Foundation  
11 Tufton Street  
London SW1P 3QB

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Design and typesetting by Beaufort 5

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## SUMMARY

Regulation in Britain has grown gradually and continuously since the privatisations of the 1980s and 1990s. Its growth has been unplanned, but has now reached a critical mass, attracting widespread criticism for its costs. The recent failures in railways and concerns about energy networks and the condition of water systems have added to the sense of unease.

These problems have not been confined to the regulation of the private sector. Public-sector regulation has grown, with an increasing number of targets and new public-sector regulators. In both the public and private sectors, delivery has not met expectations.

The causes of regulatory failure are deep-seated, and will not be resolved by tinkering. They derive from a failure to define the roles of government in determining the objectives, trade-offs and policy frameworks, and of regulatory bodies in delivery. In Britain, the determination of the public interest has been delegated to a host of regulatory offices, creating discretion and a democratic deficit.

The discretion has, in turn, reduced the credibility of the policy frameworks and raised the cost of capital. In the asset-sweating 1990s, for most industries, this did not matter much: now the new agenda of investment, security of supply, climate change and social concerns raises the costs considerably.

This new agenda requires better-designed policy frameworks, reforms to the regulatory instruments and new institutional structures. It is the job of government to define longer-term policy frameworks and, in air, rail and water, it has begun to do so. RPI – X regulation needs to be adapted to take into account these new priorities, and a number of reforms are proposed.

Institutional reform should focus on the 'agency' rather than 'office' model, delegating delivery rather than discretion over the public interest. In addition to reforms to the detail of regulatory practice, this paper recommends the creation of an Energy Agency, merging the Office of Gas and Electricity Markets (Ofgem), the Energy Saving Trust and the Carbon Trust; the merger of the Office of the Rail Regulator (ORR) into the Strategic Rail Authority (SRA); and the merger of the Office of Water Services (Ofwat) into the Environment Agency. Such a regulatory cull would create more coherence, reduce costs, and provide a basis for addressing the new agenda.

## 1. INTRODUCTION

Over the last two decades, from the outset of the privatisation programme in the 1980s, regulation has grown steadily and continuously to the point where even a comprehensive list of the new regulators is hard to compile.<sup>2</sup> Regulation is now an industry which has spawned its own profession, with academics, lawyers, consultants and civil servants all contributing. There is a Better Regulation Task Force, and a Regulatory Impact Unit, university courses in regulation and European forums for regulators. The economic borders of the state are no longer populated with nationalised industries, but rather with regulators and regulatory institutions – the producing state has been replaced by the regulating state.

Little or none of this was planned in advance. Early regulators were there as a stopgap, whilst competition and market forces developed to take the strain. In the first modern utility regulatory regime in Britain – for telecoms – the Office of Telecommunications (OfTel) was intended to wither away after an initial seven-year period. But, in practice, regulation has led to the spawning of regulatory bodies. Each privatisation gave rise to a regulatory office – first OfTel, then the Civil Aviation Authority (CAA) took on powers in respect of airport pricing; next came the Office of Gas Supply (Ofgas) and the Office of Electricity Regulation (Offer), and Ofwat. More recently, the ORR was added, and then the Postal Services Commission (Postcomm) was set up for the Royal Mail.<sup>3</sup> These economic regulators were then joined by broader bodies, as the ideas developed for the utilities were extended into the public sector – for example, the Office for Standards in Education (Ofsted) for schools, the National Lottery Commission, and now even the Office for Fair Access (Offa) for university access.

After the 1997 election, the new Labour government developed a reform agenda for the core public services. The old implicit contract, whereby the professions ran the public services, was replaced by more direct regulation. Instead of doctors running hospitals, academics running universities, and teachers running schools, all with wide discretion, the government increasingly specified the outputs it wanted, and, almost unnoticed, the professionals came to be under contracts to the services and hence began to cross the border from self-regulating members of their professions to employees. The process began

under the Conservatives, and it has not yet run its course. The legal reforms, in particular, remain to be completed.

Having now reached a critical mass, the regulators and regulatory bodies have begun both to flex their muscles and to attract serious criticisms. Some of the criticism centres on the familiar ground of 'red tape'. Business, in particular, typically would prefer not to be regulated, and usually has to bear the costs. These sorts of objection often have merit, but they are not new. More worrying is the broader criticism that regulation is not delivering. In the utilities, general concerns about too great an emphasis on asset-sweating have now been joined by specific concerns about service failures. After the decades of surplus energy, power cuts have occurred and the margin of electricity capacity to meet winter peaks has dropped below that which a developed economy might reasonably accept. Britain's lead in telecoms is slipping (and broadband roll-out remains problematic); whilst in water there are concerns about climate change, the growth of demand in the south-east as house building continues, the leakage rate and the quality of the infrastructure. But it is in rail that the failures have been most graphically displayed. The rail link to the Channel Tunnel is only now being completed, the network costs have exploded,<sup>4</sup> and it is likely to take a decade to get back to the very poor performance in the late 1990s, before the Hatfield derailment.

More generally in the public sector, 'delivery' has increasingly become a key political aspiration, but it has not been easy to translate ambition into results. In the remaining publicly owned utilities – like the Royal Mail – regulation does not seem to have wrought a step change, and in health and education, increasing spending on inputs on an almost unprecedented scale has not yet translated into the expected outputs. More centralisation, more targets and more regulation have not been a successful recipe so far.

Each case can be explained by 'special factors'. Yet the pervasiveness of the sense of, at best, unease, and, at worst, disappointment and failure, demands a more generalised response. A gradual unplanned growth of the regulatory state has led to a blurring of focus. The rationale for regulation is often lost in the detail of intervention, and with such an *ad hoc* growth, it is inevitable that some rationalisation is likely to be needed.

This paper focuses on the broad canvas – on the design of the regulatory state and on regulatory reform. It starts off with the rationale, asking what regulation is for (section II). It then goes on to consider the instruments of regulation and in particular the peculiar British idea of using a rigid, fixed-

contract approach – from the London Underground contracts through to RPI – X. This is shown to be a response to the lack of credibility by government in making commitments to investors and the private sector (section III). The credibility problem also explains much of the institutional obsession with the idea of 'independent' regulators and 'independent' regulatory offices, from the Monetary Policy Committee of the Bank of England to the ORR. The paper suggests that this is at best a relative and much over-hyped concept, and focuses on how better to define the relationship between regulators and the state, rather than trying to deny it exists (section IV). Finally, the threads of the argument are brought together to provide a programme for regulatory reform (section V). Whether these proposals fall on fertile ground depends on the political process: most likely, change will only come when the performance of the new regulatory state is so poor as to become a major political issue.

<sup>1</sup> The views expressed in this paper are those of the author, and all errors are mine. Very helpful comments from three anonymous referees are gratefully acknowledged, as are comments from across the civil service, regulators and the regulated industries.

<sup>2</sup> See Better Regulation Task Force (2003).

<sup>3</sup> For the year 2002/03, Oftel, Ofwat, Ofgem (combining Ofgas and Offer) and the SRA all had around 250 or more staff. When combined with the civil servants in departments still covering these industries, many more people are employed in regulating privatised companies than when they were nationalised. Notably, the Department of Energy was responsible for the direct oversight of the Central Electricity Generating Board, British Gas, the National Coal Board and the Electricity Area Boards. It required fewer staff than the Department of Trade and Industry (DTI), the Department for Environment, Food and Rural Affairs (Defra), Ofgem, the Carbon Trust, the Energy Saving Trust and other bodies now employ. Similarly, the Department of Transport required fewer staff to oversee British Rail than are now employed by the Department for Transport (DfT), the SRA, the ORR and other regulatory bodies.

<sup>4</sup> The scale of the cost escalation can be seen in the recent determination of track access charges by the Rail Regulator (see ORR, 2003).

## 2. WHAT IS REGULATION FOR?

Regulation has a rather simple economic rationale: it is to correct market failures, where those failures are sufficiently great to be reasonably expected to exceed those of the proposed intervention. This provides the basis for two broad schools of thought: those who put most weight on the failures of the market and have greatest faith in the positive side of the state; and those who emphasise government failures. But neither position is *a priori* correct. The essence of the rationale is that it is an empirical and pragmatic matter, and is likely to vary from case to case and over time too, as priorities change. Some sorts of market failure are now much more serious than others – for example, environmental externalities are of greater concern now than 20 years ago.

The growth of many of the regulatory bodies in the 1980s and 1990s was associated with concerns about monopoly and the promotion of competition. The focus was on curbing the ability of private firms to raise prices above costs, and to do so in a way that encouraged cost minimisation. The RPI – X price cap was the primary instrument, designed to mimic competitive markets, where firms are assumed to be price-takers.

This focus on monopoly, competition and cost efficiency fitted well with the wider political culture of the times. After the industrial interventions of the 1970s in the 'commanding heights' of the economy, prices and incomes policies, high personal tax rates and a growing share of government in the economy, the new right argued that the public sector was crowding out the private, and that the incentives of profit-seeking would lead to the better utilisation of resources.<sup>5</sup> Competition would not only sharpen performance in the product markets, but break up union monopolies too. Thus, the rolling back of the state was presented as part of modernising Britain's sclerotic economy, and the promotion of competition as driving wages back to their market-clearing level. Three million unemployed, facing down the great miners' strike in the mid-1980s, and increasing inequality were all part of the price the new right deemed worth paying to deliver this result.

As the 1980s progressed, this narrow vision of the rationale of regulation as a necessary and limited evil to deal with residual monopoly, and as a holding operation whilst competition developed, gave way to a more complex picture. Promoting competition, creating markets and sustaining them, turned out to

be a much more complex and permanent requirement. The regulation of monopoly turned out to be relatively simple compared with regulation for competition. More generally, other market failures began to gain greater profile. Mrs Thatcher famously 'discovered' climate change in the late 1980s,<sup>6</sup> and ushered in a major revision of environmental regulation in the 1990 White Paper, 'This Common Inheritance'. The Environment Agency was created in the Environment Act 1995, and integrated pollution control led to a major relicensing of industrial sites.

Some market failures were less prominent in the 1980s and 1990s because of the historical context. Security of supply in energy markets was downplayed for three reasons: energy was in excess supply; there was North Sea oil and gas, which, for macroeconomic reasons, was extracted rapidly; and fossil-fuel prices were low. In telecoms, traditional concerns about network expansion were lost in the euphoria of the great stock-market bubble, which *at the time* seemed to be able to finance mobiles and new networks at negligible capital cost.<sup>7</sup> Airports saw little expansion, rail was left to decline to the break-even path, and road-building eventually stopped. Only water required considerable investment, as a result of EU Directives. Where investment was not a priority, the business and regulatory pressures could be applied to sweating the existing assets rather than creating new ones.

Finally, the distributional aspects of regulation went out of fashion in the 1980s and early 1990s. To the general sharpening of the efficiency/equity trade-off was added a desire to phase out cross-subsidies, which the peripheral areas of Britain had enjoyed through the nationalised and monopoly utilities in the post-war period. Competition meant prices should reflect costs, and if, in the remoter regions and for poorer customers, costs were higher, then so too should be prices. Social security was deemed the right instrument for distributional questions, rather than distorting prices. And whether there should be compensating changes in social security as cross-subsidies were unwound was a matter for general policy, not utility regulation.

By the end of the 1990s, the context had changed considerably. The stock-market bubble burst, and with it the more uncritical market enthusiasms too. Competition had in any event been much circumvented by the merger boom of the late 1990s. Telecoms consolidation had left incumbents in powerful positions, the British energy market was coalescing around five vertically integrated firms, three of which were overwhelmingly dominant in Europe too (E.ON, RWE, and EDF).

The consequences of the regulatory focus on asset-sweating had also had its effect. By the early 2000s, cracks were beginning to appear in the main infrastructures – literally in the case of the railways. At Hatfield a broken rail brought almost the entire network to a halt, ushering in a collapse of Railtrack, and an extraordinary combination of ever-greater costs and lower performance. In electricity, power cuts returned for the first time since the 1970s, and the ageing of power stations reduced the capacity margin. In telecoms, it could no longer be assumed that incredulous shareholders would pour money into marginal, often rural, broadband provision, and in water the EU-driven investment requirements continued unabated, whilst renewal and maintenance of the existing networks grew in cost. By 2003, many commentators (and some politicians) had at last recognised that investment and security of supply were at least as important as regulatory priorities as monopoly and competition had been in the past.

This shift in priorities applied to both the private and public sectors. Indeed, if anything, the squeeze on costs and investment was applied even more forcefully in the 1980s and 1990s in the public sector. In the early 1980s, as public borrowing hit the constraints of the incoming Conservative Government's medium-term financial strategy, much capital expenditure in the public sector simply stopped. The earliest utility privatisation – BT – was in fact motivated by the immediate difficulty of financing the system X exchanges in the public sector. In schools, universities and hospitals, the effects were felt too. Choice – and the implied producer competition – was introduced into schools and the internal market was created within the health service. Though public-sector regulation was kept inside government in the main, it was only a matter of time before regulators would be established, notably Ofsted for schools. The cult of targets developed later, but since targets need setting, monitoring and enforcing, regulators of them would eventually be needed too. Setting targets for class sizes and hospital waiting lists became an election manifesto competition in itself.

There is a further reason why the public and private sectors became less distinct than they might have seemed in the market euphoria of the 1980s and early 1990s. The core utilities, the infrastructure networks and the health and education sectors will always have a political element, in that it is government that ultimately guarantees the investments. These activities almost always involve lumpy, fixed and sunk investments, and investors need to have confidence that governments will not subsequently behave towards their

investments in an opportunistic way and expropriate them. The incentive is there: the average costs are often much greater than the marginal costs, and hence once the fixed costs are committed, marginal cost pricing may be good short-term politics. This is what economists call the *time inconsistency problem*, to which we return below. But, for the moment, the important point to note is that all these activities ultimately rely upon government, and, hence, they are all one or another type of partnership between the public and private sectors. In some areas, government's credibility is so low that public ownership passes the risks and costs of opportunism straight to the taxpayers. In others, the private sector can bear much of the risk, particularly where customers provide the bulk of the revenues. But the role of government cannot be escaped, and those who thought in the days of the market enthusiasm of the 1980s and 1990s that industries like electricity, telecoms and even water were being transformed into normal commodity businesses were making not only a practical but also an analytical mistake. Politics will always have a role in these utility and welfare services, and regulatory structures should be built to accommodate this, not on the pretence that it will go away.

Not surprisingly then, there has been a gradual – if haphazard – convergence of private- and public-sector regulation around various formats for public-private partnerships. The role of markets is considered in a similar way in both sectors, if not always with the same results. Publicly owned companies – like the Royal Mail – are regulated like private utilities. Private utilities increasingly find their outputs scrutinised and determined by regulators. These have much in common with public-sector targets. Penalty regimes are tried in both. The agenda too is remarkably similar – investment, modernisation and cost efficiency. Though there remain very important differences which derive from ownership (and particularly from the complexities introduced in the public sector by the owner also being the ultimate regulator), regulation has a common core. That is not to assert that ownership does not matter – it does. But market failure is not specific to private ownership.

Market failures tend to come *simultaneously*. The core utilities have monopoly problems, they are the routes for competition, and they convey much pollution – from carbon-based energy, to waste water and sewerage, through to energy-intensive transport. Even telecoms is important to the environment, in that it has the capacity to reduce energy demands and substitute for travel. The multiplicity of market failures is important because

the solution to one problem (say monopoly pricing) can exacerbate another (pollution). Lowering the monopoly price may increase demand and associated emissions. Good regulation therefore requires interventions that take account of all the main failures, not just one or two. As we shall see, this has important implications for the design of regulatory institutions and their general duties and powers.

The first and most prominent market failure in the last two decades is monopoly. There are two sorts – natural and artificial. The former arises where costs conditions are such that it is efficient to have only one producer – and networks typically fall into this category. Artificial monopoly arises when the cost conditions would support more than one firm, but there are barriers to entry. Left to its own devices, network natural monopoly tends, in the private sector, to set prices above marginal costs, and to produce too little output. Networks will therefore be too expensive and underdeveloped, with resulting excess profits, in the absence of regulation. Hence regulators can cap prices, require higher outputs, or limit the rate of return. These turn out to be less distinct than has been widely claimed in Britain in recent years, as we shall see in the next section. In the public sector, the interests of managers, workers and politicians tend to encourage lower prices, and lead to excessive output and costs. Public-sector regulation of nationalised industries (conducted by the Treasury) therefore tends to try to force up the rate of return and prices, and reduce investment.<sup>8</sup>

In the case of artificial monopoly, the task of the regulator is to remove entry barriers, sometimes to break up incumbents and often – as in electricity and gas – to create new market structures. This turns out to be a *permanent* task when the added complication of the access to the networks is considered, and much regulatory action takes place *between* the natural monopoly and the competitive section of the market. Access pricing and terms tend to be especially contentious in vertically integrated industries which combine networks and services – notably in telecoms and postal services.

A second market failure relates to investment and the problem of sunk costs, and it has received little attention in British regulatory debates for the very good reason that, in the 1980s and 1990s, little investment outside the water industry was needed. The problem is that utilities make investments now, which are lumpy, fixed and sunk, in the sense that the costs cannot be recovered if the firm leaves the market. They are committed. But being committed leaves investors exposed to the possibility that conditions might

change in the future, and they may not recover their costs. New technologies might lower prices, there might be excess investment by others, or demand might fall.

Across the economy generally, the usual solution is long-term contracts, where customers commit to paying for the sunk costs over a period of time. Long-term contracts can be tight, committing customers to price and quantity, or looser, depending on the nature of the sunk costs. Where these investments take place in a political context, the time inconsistency problem arises: government might *ex ante* encourage investors to sink money into new assets, and then *ex post* renege on their side of the deal, pushing down prices. Examples include the North Sea gas contracts which British Gas struck with oil companies to develop the North Sea, through to electricity networks, water infrastructure and even renewables investments. In the absence of a credible commitment by the regulatory body, investment is likely to be deficient. The neglect of this source of market failure is one of the reasons for the poor shape of much of Britain's current infrastructure. Indeed, in electricity, the pursuit of short-term competition and the reliance on spot markets have made matters (much) worse.

A third market failure is complementarity – the externality to the rest of the economy of the network utilities. If networks are over-provided, there are added costs spread over the economy, but, if they are inadequate, the costs of service failures are of a bigger order of magnitude. Power cuts are the extreme example, bringing most production and consumption to a halt. The complementarity extends further too. It is not just the complementarity of each network to the economy as a whole, but to each other. Thus, in summer 2003, electricity network failures stopped the London Underground, gas interruptions affected hospitals, and the overground rail network was adversely affected too. For this reason, many buy the insurance provided by back-up own-generation, despite its cost.

The implication of complementarity is that it is better to be over- than under-provided – to have some gold-plating and back-up capacity built into the networks, in terms of physical capacity and standby workers and service providers in the event of failures (such as storms and related system shocks). Again, this may conflict with the focus on competition and reducing monopoly prices.

A fourth market failure is the environment, and the failure to internalise pollution costs. As noted above, the energy, transport and water networks



convey much of Britain's pollution, and their customers are thereby buying pollution-laden goods and services. By internalising these externalities, regulators seek to raise prices and reduce quantities, the exact opposite of the approach to monopoly. The dominance of the focus on monopoly and competition in the last two decades, in the absence of proper pollution pricing, therefore exacerbated the level of pollution by pushing prices down.

Finally, there are social and cultural aspects to utility services, and these can either be regarded as matters of distribution best left to social security, or as part of the bundle of goods and services we expect the utilities and welfare state to provide. In practice, regulation cannot avoid direct intervention here: in part, because the utility and welfare services form such a large share of the budgets of the poor; in part, because they are literally vital (hypothermia kills people, as would dirty water); and, in part, because costs are geographically distributed, and social inclusion requires that all citizens receive a minimum bundle of basic services if they are to participate in society. Most obviously, competition exposes cross-subsidies, but it also tends to lower prices generally, so that the trade-off is ambiguous.

In reviewing the different forms of market failure, two policy themes have emerged. The first is that regulation cannot be one-dimensional, and it is unlikely that any regulatory body which has the ability to determine price and output, and which is primarily focused on only one of the market failures, will arrive at the right answers. Different regulatory bodies, each with one of the market failures to look after, will conflict and the outcome will be as much about their relative organisational muscle, as about the 'right' trade-off. Notably, the Environment Agency finds itself in conflict with Ofwat over environmental capital expenditure. The DTI finds itself in difficulty with Ofgem over renewables. The ORR conflicts with the SRA and the DfT. All sorts of device – from concordats to formal guidance<sup>9</sup> – have been tried to patch up these differences, but the overall result has not been encouraging. Institutional design is therefore a crucial component of regulation and has a significant influence on the outcomes.

The second policy theme is one of history. The conflicts between the investment and sunk-cost problem, and the promotion of competition, will be of more or less importance depending on where the industry is in the capacity cycle. For example, in the 1980s and 1990s in energy, the conflicts between the focus on monopoly, as opposed to investment and complementarity, were of little significance because the energy market was in excess supply. The

investment question did not really arise. Similarly, prior to 1990, there really was little conflict between environmental and monopoly regulation, because there was not much by way of environmental policy to conflict with. Regulation is therefore dependent on both context and time.

How these conflicts play out depends upon the overarching objectives set by government, the institutional structure and the type of instruments used by regulators. In theory, all these market failures can be priced, and the right answer is the outcome of all these prices being aggregated together. Market-based instruments help greatly in this process but, as we shall see, they have been the exception rather than the rule – and for serious political and economic reasons. In the absence of a complete set of prices, governments have a core role in defining the trade-offs. Much of *government* regulatory policy is about this definitional function.

<sup>5</sup> These arguments were well represented at the time in Bacon and Eltis (1976).

<sup>6</sup> See Helm (2003), chapter 19.

<sup>7</sup> When the dot.com and telecoms bubble burst, the costs turned out to be anything but negligible. But what mattered for the design of regulation *at the time* was the perception of low costs.

<sup>8</sup> See Helm (2003), chapter 2.

<sup>9</sup> For most regulatory bodies, the government issues guidance, although, in the case of the offices (as opposed to agencies), this tends to be a secondary duty. There is a concordat between the SRA and the ORR.

### 3. REGULATORY INSTRUMENTS

The choice of regulatory instrument has been largely determined by the concentration on particular market failures. Thus, the focus on monopoly and competition has been supported by an emphasis on price-setting. The central idea, introduced with the privatisation of BT, was that the regulator would mimic the market by setting prices for a period ahead, according to the RPI – X formula.<sup>10</sup> The period was typically four to five years, though in water initially it was ten. The regulated companies would then maximise profits by minimising costs, and hence the outcome would be efficient. In the early versions, it did not much matter whether the prices set by the regulator were ‘correct’. Indeed, part of the critique of the nationalised industries was that regulators had little idea what an efficient company would look like. Under the fixed-price cap, the market would *reveal* the true costs, and, hence, although prices might be too high in the initial period, when prices came to be re-set, the benefits would return to customers. The trick was to be *credible* in setting the prices and sticking to them, and to resist all pressures to intervene within the periods. (Prices could not be too low, since the regulator had a duty to ensure that the companies could finance their functions – in effect, a rate-of-return floor.)

This deceptively simple rule turned out very differently from its creator’s intentions, and was better described as rate-of-return regulation with a lag. The fixed period was unlike anything the market might have produced. Prices vary frequently in competitive markets. The scope for gains within the period depended on the starting point, and very soon regulatory games began, with companies bidding for very high opening capital and operating expenditures and then rapidly cutting them once the formula was set. Costs could also be lowered by reducing quality, so the regulators were drawn into output regulation. Setting the five-year forward contract turned out to be a very complicated affair, requiring detailed forward estimates of the cost of capital, the value of shareholders’ funds, and operating and capital costs. Not surprisingly, the information set turned out to be very similar to that under rate-of-return regulation.<sup>11</sup>

The key difference from rate-of-return regulation was, however, the *fixed periods* and the high-powered incentives thereby created. Fixing the prices

transferred the risks to the companies from the customers. As a consequence, the cost of capital was much higher than under rate of return. The risks turned out to be not only the costs but also the regulators’ credibility. Would regulators – and indeed politicians – keep their hands off within periods? The answer was negative in most cases. In water, intervention became almost an annual event; in electricity distribution, after the initial period, the regulator had to redo the price cap.<sup>12</sup> Then there was the windfall tax in 1997 under the incoming Labour government. A host of extra soft obligations were also added, without corresponding increases in revenue, to be financed out of profits.

These weaknesses had their costs, but there were also undoubted benefits from RPI – X. Costs generally fell, particularly operating ones. Labour forces in water and electricity distribution were typically halved. Capital efficiencies are more controversial, but there were probably significant gains here too. If the aim of RPI – X was to drive out gold-plating and operating cost inefficiency, it is hard to conclude other than that it was successful. By the end of the 1990s, costs had been driven down across the utilities. Assets were sweated much harder than they had been in the public sector, and operating costs were generally lower than in Europe (though interestingly not the United States, which continued with rate-of-return regulation until quite recently).

These gains were achieved in a number of ways. The most significant new approach to driving down costs and hence sweating the assets was contracting out. The management fashion in the 1990s was to reverse the conglomerate approach of the 1970s and early 1980s. Companies ‘re-engineered’ themselves to focus on their core competences and used the market to service everything else. In the utilities, first ancillary services, then finally in some cases virtually all operations and capital programmes were contracted to third parties. In the short term, this meant that labour could be made redundant, and for a while the highest rates of return attached to sacking incumbent workers and replacing them with cheaper (and less secure) workers. Management of utilities became very much focused on coordinating contracts, and, if the regulator set RPI – X as the price, managers then tried to let contracts at fixed prices below the RPI – X revenue stream, ensuring a profit.

Not every utility took this route, and some did it more than others, but the result has been much more fragmentation of companies. Unfortunately, not everyone recognised that a contracted-out utility required a competent core, with adjustments to ensure system resilience, back-up and mechanisms to avoid capture by the contractors. Once the core competences had been lost,

they proved hard to recover. Evidence first emerged as to the scale of the problem in the railways, but it was to be followed by international experience of network fragility in the electricity power cuts in the US, Italy, Denmark and Sweden and in England in the summer of 2003. Asset-sweating ended up in some cases endangering security of supply.

A further impact of RPI – X regulation was on the type and level of investment. Regulators, having been caught out by the game-playing by utilities which overstated their capital investment requirements *ex ante*, became more sceptical of companies' plans, and, towards the end of the 1990s, started to take a much harder line. In the case of Transco, investment to reinforce the gas network, on which much of the electricity system increasingly depended, was pruned back. The onus was put on the companies to justify further investment, rather than the other way around. Rather than provide for a comfortable margin of gas network capacity as the energy market conditions tightened, Ofgem preferred to use capacity auctions into the future and a slightly higher rate of return as the mechanisms, with the consequence that part of the investment did not actually take place.<sup>13</sup> In water, the price reductions imposed in the period 2000–05, despite the continued high levels of investment required, put capital maintenance under serious pressure.

But perhaps the most damaging impact of RPI – X came from the realisation by investors that whilst the game had been very profitable in the 1990s, by the end of the decade, the government and regulators were likely to tighten the screw, and there began the 'flight-from-equity'. Share buy-backs and special dividends were the early mechanisms, to be followed by the securitisation of regulatory asset bases. By 2003, in electricity distribution, recourse financing in some cases exceeded 100%.<sup>14</sup>

This development was very different from what had been intended at privatisation. Whereas one of the purposes of privatisation had been to create private balance sheets,<sup>15</sup> which could be extended by rights issues, to carry the investment programmes, and which it was assumed would be geared up to accommodate that investment which was not directly paid from customers' bills in the periods, shareholders pre-empted the process and exited. By 2003, banks were firmly in the driving seats.<sup>16</sup>

In consequence, it is the incentives of banks which will in large measure determine what happens next. Their primary concerns are to get interest paid and to be repaid. They have little interest in the risks with respect to efficiency

that equity had taken, since they cannot share in the upside gain. They are risk-averse in this sense, with almost all the focus on the downside. Further investment could only be financed if either the cost of capital was set high enough, or the risks were transferred to customers and taxpayers – through greater rate-of-return elements or government guarantees. At the limit, Network Rail required both – pass-through and guarantees – largely at public expense.<sup>17</sup> Equity risk had of course not gone away: it had migrated to the Treasury and customers. The bankers required, in effect, rate-of-return regulation.

Thus, the managerial and capital market responses to RPI – X ended up fragmenting networks, risking security of supply, and engineering a flight-from-equity which undermined the scope to use the balance sheets for the modernisation of the networks. Asset-sweating worked whilst there was fat to sweat. But once the fat was gone and the focus shifted to capital expenditure and security of supply, the results were increasingly of concern.

RPI – X was not, of course, the only instrument: other instruments were used to address the environmental and social failures, though little was done with regard to investment and security of supply. These other instruments tended to be *ad hoc*, developed in a piecemeal fashion, and have had an unhappy relationship with the conventional utility regulation and its regulators.

The environmental area has seen the largest expansion of instruments – and institutions too. Here there has been a tension between the wide acceptance that market-based instruments are preferable in principle, and the recognition that, in practice, such instruments, in their effects on price and politically sensitive areas, such as coal, are hard to implement.

Among the more market-based instruments in energy have been the Climate Change Levy (CCL) and the UK Emissions Trading Scheme (UK ETS), though both have been so doctored to avoid political consequences that neither has much 'market' left in them. The CCL was based upon energy rather than carbon in order to protect coal, and large users were provided with a 'get out' via negotiated agreements. The UK ETS amounted to little more than a subsidy for large industrial energy users adversely affected by the CCL, and the European scheme is already creating difficulties for coal and new entrants.<sup>18</sup>

These broad-based instruments have been complemented by a host of more technologically specific interventionist measures. There is a Renewables Obligation – in effect, a quota. There are special measures to support

renewable technologies, to invest in energy efficiency, and there are many direct pollution controls. These are administered by a supporting plethora of institutions – the Energy Saving Trust, the Carbon Trust, the administrators of the Renewables Obligation and Renewables Obligation Certificates, building regulations bureaucracy, the Environment Agency and parts of Ofgem.

In *water*, environmental considerations are covered by the Drinking Water Inspectorate, the Environment Agency and Defra. Here, command-and-control has been the norm, and a system of tradeable abstraction rights and taxes on discharges and sources of diffuse pollution, while frequently inquired into, has not been implemented. In transport, fuel taxes apply, but with only a loose relationship to the resultant pollution.

Social objectives have also been pursued through a variety of instruments, often with immense complexity. General social security policy has taken into account expenditure on utility services, while for each sector there have been special measures – from the VAT controversy in energy, the targeting of energy efficiency measures and winter fuel payments, through to the treatment of bad debts and connections in water and discounted fares in public transport.

As policy instruments are added, few (if any at all) are subtracted. The CCL or emissions trading could, in principle, take the place of direct interventions, with market-based instruments replacing command-and-control measures. But they have not. In consequence, not only does the regulatory burden grow in terms of administration and bureaucracy, but the interaction of the many instruments tends to lead to inefficiencies. It is hard to conclude, for example, that the existing level of carbon-dioxide emission reductions could not have been achieved at significantly lower costs.

The reason for the gradual accumulation of more and more institutions and regulatory bodies is a political one: whenever something goes wrong, or a lobby becomes hard to resist, politicians and regulators need to be seen to 'do something'. But when regulation is going well, in the sense that interventions are not needed, it is hard to reduce or eliminate instruments and institutions. In part, this is because there is little immediate upside, and in part it reflects the fact that instruments tend to get capitalised, and institutions do not typically reduce their size, budgets and activities.

We have then a set of regulatory instruments biased towards asset-sweating, often in conflict with each other and of ever-growing complexity. Regulation, far from withering away, has grown in a haphazard way, with new instruments added without much consideration for the consequences for the

regulatory regime *as a whole*. The different market failures are not addressed simultaneously, but rather largely in isolation. Policy instruments often pull in different directions, some reducing prices, others raising them. Little thought is given to the overall public interest, and this complexity and inconsistency is abetted by the plethora of different institutions which compete in the policy domain.

<sup>10</sup> The RPI – X was first set out by Stephen Littlechild in a paper on the regulation of BT. See Department of Industry and Littlechild (1983). Beesley and Littlechild (1989) is the classic exposition.

<sup>11</sup> See Helm (1994) on the practical issues raised in RPI – X regulation.

<sup>12</sup> See Helm (2003), chapter 11.

<sup>13</sup> See Helm (2002).

<sup>14</sup> See Bucks (2003).

<sup>15</sup> The importance of balance sheets to privatisation can be thought of as the creation of a *private-sector* borrowing requirement; replacing investment which would otherwise have been part of the *public-sector* borrowing requirement. This is set out in Helm (2001*b*).

<sup>16</sup> Notwithstanding the United Utilities rights issue announced in the summer of 2003.

<sup>17</sup> Despite these government guarantees, Network Rail continued to receive a regulated rate of return at the top end of the utilities' scale. See ORR (2003), pp. 187–8.

<sup>18</sup> See Helm (2003), chapters 19 and 21.

## 4. WHAT SORT OF INSTITUTIONS

Though it is fashionable to downplay institutional factors in regulatory debates – except to stress the merits of ‘independence’ – their importance is considerable. Institutions are the focus for objectives and implementation. Regulation does not just ‘happen’. It has to be done by some collective of individuals. Whether this comprises civil servants, the courts, or members of a specialist body will affect how it is carried out. Institutions develop their own cultures and people in them have careers. Their design affects how lobbying is conducted and how successful it may be. It also affects the scope and limits of politicians’ influence and power.

From the early days with the privatisation of BT, the new regulatory bodies were designed to be ‘independent’ of government. Politicians could not be trusted to avoid intervention in markets to protect vested interests and, in particular, to manipulate prices for electoral gain, and hamper efforts to promote competition, where this created losers amongst workers and particular customer groups. Therefore, once government had pinned itself *ex ante* to the competition mast, and introduced forward-looking price controls, it had to be prevented from short-term *ex post* interventions.

The problem of the credibility of the regulatory regime – which was addressed through delegation to an independent regulator – is not confined to the utilities. It is generic to a wide variety of public policy, and, as discussed above, is known in the economics literature as the *time inconsistency problem*. Government has more than one objective, and investors make decisions on the basis of the government’s stated priorities. Then, once investors are committed, the government can subsequently renege on its commitment and pursue a different objective, undermining the economics of the earlier investment. The classic example is monetary policy,<sup>19</sup> where, in order to convince markets that the government is committed to an anti-inflationary policy, it has delegated both the objective (an inflation target) and the instrument (the interest rate) to the Monetary Policy Committee of the Bank of England. Now, it is argued, the scope to manipulate the interest rate in the short run for electoral purposes is altogether more difficult to achieve.

Any regulatory regime has to address this time inconsistency problem. But, for Britain, it is especially critical, since the credibility of government is so low.

The reason is a deep one, which has emerged from the history of British administration, and in particular the use of administrative rather than judicial approaches. Whereas, in the US, the courts and the judicial framework provide the main conduit for credibility and distance from day-to-day political interference, in Britain the pragmatic and empiricist approach has tended to provide administrators – and now regulators – with very considerable discretion. In general, in Britain, we devolve to regulators the general duty to pursue the public interest, and then leave the individuals or bodies onto whom these powers are devolved to make pragmatic decisions on a case-by-case basis, free in large measure from judicial review. This discretionary approach is reinforced by the simple majority voting system, which enables considerable swings of legislation, within the lives of capital investments, again not subject to much court supervision. Again this is unlike the US, where the Supreme Court can – and, in the infrastructure context, in the famous case of the New Deal in the 1930s, did – strike down laws passed through the elected chambers.

If the difference with the US is between the courts and the administrative approaches, the difference with much of Europe is between the Napoleonic Code and the piecemeal one. European regulation tends to lay down uniform standards, whereas the British have allowed standards to vary on the basis of pragmatic judgments according to the costs and benefits. Thus, in Europe, for example, all bathing beaches are broadly required to have a common minimum standard, whereas in Britain we have had different standards for example for Blackpool than less industrialised areas. The waters of the Rivers Test and Itchen have been treated differently than the River Mersey. For Europe, salmon should swim in *both* the Test and the Mersey.

Because the traditions have been so different, it is not surprising that when American companies bought into the British regulated utilities, they made serious mistakes and found, for example, the windfall tax so outrageous. US courts would probably not allow such an expropriation from private owners. It is also not surprising that Britain has found the costs of European Directives so expensive, requiring the adaptation from the highly variable outcomes created by a piecemeal approach to a uniform standards one.

The core feature of the British regulatory approach – discretion – has not been solved by delegation to independent regulatory bodies, and it is here that the Monetary Policy Committee proves a very poor analogy. Whereas the Committee has been given a clear inflation target, *and* control of the interest-rate instrument, the utility regulators were first given a series of duties (which

often conflicted) and then, in the Utilities Act 2000, a single all-encompassing one – the interests of consumers. Even then, as if consumers' interests were not broad enough, other secondary duties remain, including taking account of guidance from government.

In effect, the British system devolved to independent regulators the public interest, and left them largely free to pursue their own interpretation of this duty. It led to what I have elsewhere termed 'good chaps regulation'.<sup>20</sup> The Conservatives in the 1980s understood this point, and the public interest was concentrated in an individual rather than a board to enhance the sharpness of decisions. Mrs Thatcher was notorious for her faith in getting the right people into key positions, using the 'one-of-us' test. It was shared by those closely involved in the privatisations, notably Nigel Lawson.<sup>21</sup> Thus, when Oftel was set up, and when subsequent energy and water offices were created, the individuals chosen shared a common set of beliefs about the way markets worked, and an optimism about the benefits of competition. Some of these individuals came from the circle of neo-Austrian economists centred around the Institute of Economic Affairs, and two were particularly influential – Stephen Littlechild and Michael Beesley.<sup>22</sup> The general discretion provided through the legislation for the new Directors General focused quickly down on the promotion of competition, and the mimicking of markets through RPI – X, which Littlechild had invented.<sup>23</sup>

However carefully government selected its Directors General, it could not control them once appointed. And, as a result, experience differed from sector to sector, and within each office as the Directors General changed. For Littlechild, at Offer, intervention within periods was avoided in 1990–95 for the regional electricity companies, only to collapse in 1995 when the review was done again, and subsequently with the windfall tax. For Byatt at Ofwat, in contrast, intervention became almost an annual event from the outset. Littlechild was not much interested in accounting issues and the rate of return – for the very good reason that, for him, this was an outcome, not a regulatory input. By contrast, Carsberg, at Oftel, almost immediately cottoned on to the cost of capital – in part reflecting his accounting background. McKinnon, at Ofgas, was willing to address some of the environmental market failures through the introduction of a green levy – the E factor. Spottiswoode, his successor, started off by questioning its legality. Winsor, at the ORR, took a radically different line to Swift, his predecessor, over the role of so-called 'model' contracts and licence clauses, and to Bolt, the interim head, over the setting of track access charges.

These are just a few examples, and they illustrate the general point: discretion is what has been delegated in the British system. Regulators are 'independent', but not in the usual sense of the time inconsistency problem and its resolution discussed above. In this respect, the analogy with the Monetary Policy Committee is quite false. In place of defined delegation of policy delivery, there was delegation of the public interest to appointed individuals. Not surprisingly, this approach came under sustained criticism, and from two directions – its inefficiency, and its democratic deficit.

The inefficiency of discretion stems directly from the time inconsistency problem. Because investors, confronted with discretion, know that the regulator could – once the investments had been sunk – renege and thereby expropriate them, they demand a higher rate of return. RPI – X might be portrayed as a high-powered incentive regime, but it was also high-risk. The private sector was asked to take a punt on the promises of the regulator that, if the returns turned out to be high, they would not be clawed back in the period, and, once the price cap was re-set, it would only pass on the efficiency savings that had been realised for the future period. This was a risky punt, as investors realised from the outset. In the early 1980s and 1990s, the cost of capital for British utilities turned out to be amongst the highest in the developed world. And it was justified too – by the 2000s, just ten years after privatisation, the water companies were trading below their regulatory asset base.<sup>24</sup> Where investment was not a priority – in energy, in particular – it may not have mattered much. But where it was – in water – the customers paid a high premium for the lack of credibility.<sup>25</sup>

The second line of criticism is that of the democratic deficit. There is a very great distinction between government specifying what it wants, and then employing people to carry it out – either directly through the civil service, or indirectly through delegation and contracting – and government delegating its own function, which is to adjudicate on the public interest. Decisions by regulators about the cross-subsidies in networks to the regions, about the roll-out of the gas network, and about the level of environmental regulation, are different in kind from the administration of the Renewables Obligation, the efficiency assessment of networks, or the trade-off between security of supply and environmental objectives. Utilities have assets with very long lives, and hence investments cross the generations. Regulators making trade-offs between current and future consumers are straying into political territory.

To some in the new regulatory bodies, regulation was a technical affair divorced from politics. Markets were apolitical, and the regulator was gradually peeling away the residual role of the state. In a telling moment, when Littlechild appeared before the Trade and Industry Select Committee in autumn 1992 to answer questions about the coal crisis which had threatened the government's majority, when asked about his discussions with Michael Heseltine, then President of the Board of Trade, he replied that he had not met him. The audience's laughter reflected a sense of disbelief.<sup>26</sup>

The irony here is that the intellectual heritage of many of the ideas about competition and price-cap regulation was deeply political. The Austrian school of economics, and the Institute of Economic Affairs, were very much in the business of trying to define a particular type of society, and recognised that markets were social institutions whose functions were not just to promote efficient outcomes, but to preserve liberty too. Its intellectual heritage was as a counter to the socialism which had seemed so dominant an ideology in the twentieth century.<sup>27</sup>

The idea of a technocratic world divorced from politics, in which 'good chaps' pursue the public interest, is not only a utopian one, but one very much at odds with much of British intellectual culture in the twentieth century. The scientific and technocratic utopia of H.G. Wells (and sometimes of George Bernard Shaw too) had long been displaced by the cold realism of Aldous Huxley's *Brave New World* and George Orwell's *1984*. Democracy and democratic control provided not only the limit to markets, but also the context in which markets as social institutions would flourish.

Two examples illustrate how the boundary between the two has been crossed. The first is from water; the second from rail. When the water industry was privatised, the government set up the National Rivers Authority (NRA) which subsequently merged into the Environment Agency. Its task was to set out the environmental programme for the water industry under guidance from, and in consultation with, the relevant department for the environment. The Director General of Water Services was tasked with taking that capital and operating programme and ensuring that it was financed and efficiently delivered. That was a clearly defined line of delegation. However, it is no secret that the first Director General was sceptical about the value of the environmental programme and about environmental concerns more generally, and focused on prices. Improvements in quality were, at one stage, described as 'like an aspirin in a swimming pool' and the priority was 'to get off the price escalator'. He invented the concept of 'affordability' and set about reducing the environmental

spending plans. Whether he was correct in his views is not relevant here: it is that he used his discretion to make judgments and decisions which were arguably political and beyond what had been intended by Parliament. The consequence has been political too: the gulf with environmentalists and those concerned with poorer customers and welfare issues has widened.

In the rail case, the democratic deficit is much sharper. For Railtrack and now Network Rail, the marginal source of funds is the Treasury. The extent of the failures is so great that the subsidy is a noticeable amount of total public spending. However, in the current regulatory regime, the decision about how much public money will be spent on the railways has, in effect, been delegated to the Rail Regulator. He decides what the track access charges will be, which the train operating companies pay to Network Rail, and these charges are then, in effect, backed by the Treasury.<sup>28</sup> The idea that a regulator should have the power to decide public expenditure in, say, the health or education sectors, or to determine the priority that rail should have relative to other forms of expenditure, is one which obviously offends the democratic sentiment. In reply, it might be claimed that all the regulator is doing is spelling out the consequences of the government's output decisions, but again the comparison with other sectors shows how absurd this is. Imagine a regulator determining the public expenditure on schools as a result of the government's targets for class size. It might be just plausible if the outputs were all defined and measurable, and the relation between inputs (resources) and outputs a tight and well-defined one too. But in long-lived networks and in public services, the contracts are very incomplete. Defining the public interest over time is an inexact science, involving not just technical content, but also judgments about the kind of society people want and the trade-offs that have to be decided over time.

During the 1990s, the concentration of discretion in the hands of unelected individuals was gradually recognised as a problem, and it became fashionable to regard depersonalisation as a 'good thing'. By the time the Utilities Act was passed in 2000, boards and authorities were the preferred model, with a split in the roles of Chairman and Chief Executives.<sup>29</sup> Depersonalisation would be achieved by a broader model of corporate decision-taking, borrowed from the private sector. Though obviously a step in the right direction, it was not, however, a solution to the discretion problem. Regulatory boards sometimes enhance the power of individuals. Personal priorities and agendas can always be pursued in a variety of contexts by powerful individuals. Placing discretion in wider hands may change the way it

is exercised, but it is the discretion not the corporate governance that matters most. Over time, boards tended to recruit stakeholders rather than experts, so that different visions of the public interest were reflected around the boardroom table. Token environmentalists, members of ethnic minorities and so on were appointed. But the boardroom is not a substitute for democracy, and the legitimacy of the decisions taken was only marginally enhanced. The smallness of that margin is reflected in the fact that the key individuals remain as prominent as their predecessors: Currie (Ofcom), Mogg (Ofgem) and, until recently, McCarthy (Ofgem), and Corbett (Postcomm) appeared to exercise only marginally less power than the old-style individual regulators, of which Winsor and Fletcher are the leading remaining examples. In most cases, little is heard in the media or wider public domain of the other board members.

How then might the efficiency of the regulatory regimes be improved, and the democratic deficit be addressed, without returning to the old nationalised industry, ministry-driven world? The answer lays in sorting out first the various roles of the government and its agents, and then designing institutions that are fit for the purposes of policy implementation.

<sup>19</sup> For an analysis of the time inconsistency problem in carbon policy, see Helm, Hepburn and Mash (2003).

<sup>20</sup> See Helm (1994). The approach of Keynes to public administration and the 'state' represented an earlier embodiment of the good chaps approach; see Skidelsky (1983).

<sup>21</sup> See Lawson (1992).

<sup>22</sup> On the Institute of Economic Affairs, and in particular its ideological and political roots, see Cockett (1994).

<sup>23</sup> Note that RPI – X is nowhere prescribed in either the legislation or the licences. Prices are set by a licence condition, but a whole range of mechanisms could be inserted, subject only to the licence revisions procedures.

<sup>24</sup> The market value should be equal to the regulatory asset base plus the capitalised value of future efficiency gains over and above the normal level if the rate of return set by regulators equals the cost of capital. Efficiency gains should typically be positive, since that is the point of the incentive regime. Hence, market values should exceed regulatory asset bases.

<sup>25</sup> Surprisingly, some utilities have nevertheless continued to support independent regulators. This is probably explained by history – the excess returns earned in the 1990s – and by confusion between the protection in law of their ability to finance their functions (and the appeals mechanism) on the one hand, and the fear of government intervention on the other. It is the legal right to finance functions that matters, and indeed the discretion of independent regulators undermines this.

<sup>26</sup> See Helm (2003), pp. 157–8.

<sup>27</sup> See, especially, Hayek (1960) and Popper (1945).

<sup>28</sup> The position was set out by Tom Winsor, Rail Regulator, in November 2003, 'it is not relevant what the Treasury wishes to pay' (Winsor, 2003).

<sup>29</sup> Despite this, McCarthy resisted splitting the Chairman and Chief Executive roles at Ofgem, and Bowker combined them at the SRA.

## 5. A PROGRAMME OF REGULATORY REFORM

So far, we have identified that the forms of market failure are multiple, not singular; monopoly is only one amongst many. We have shown how RPI – X is a deceptively simple rule, and that, while it lent itself well to the asset-sweating agenda of the 1980s and 1990s, it is less well suited to the new demands of the new century, with investment, security of supply and environmental concerns to the fore. Other instruments might be better suited to the new purposes, albeit with a strong bias towards using market-based mechanisms where possible. The failures of the current regime have been identified as having an important institutional dimension, with the discretion which comes from a general public interest approach at the heart of the problems. This, we saw, creates inefficiency because of the lack of credibility and time inconsistency, and a democratic deficit too, as regulators encroach on political decisions. At best, the creation of boards has helped only marginally.

With these considerations in mind, regulatory reform needs to concentrate on the interface between politics and economics, on the border between the state and the market. Regulators operate in this domain. To improve the performance, the first step is to sort out what governments should do, before turning to the appropriate institutions.<sup>30</sup>

The role of government is to define objectives, and to sort out how the trade-offs between them should be made. Objectives are, however, more than general wish lists. For example, the government might want to have a sustainable environment, but it cannot avoid specifying what sort of carbon targets it should attempt to achieve. It would like a railway system that works, but this requires specifying the level of subsidy it is minded to provide, and the investment it expects to get for it. Objectives then require the specification of more detailed targets, and government's role is to set these.

The corollary of this is that the private sector needs reassurance that it will be able to recover its costs and make a return on its investments. The peculiar characteristic of most utility networks is that the value of each investment depends upon what others do too. The economics of a new power station depend very much on whether others are building too. More directly, investing in trains for a particular line depends upon interconnection with the rest of the network. A wind farm depends on having an electricity network capable of



dealing with variable loads for embedded generation. The value of the parts depends upon the composition of the whole. Coordination is therefore an essential element in these industries and consequently there needs to be some kind of framework. In the 1980s and 1990s, when investment was not a priority and there was general excess capacity, it did not much matter – except, as noted above, in water, where European Directives provided this component. In an investment-driven context, coordination is crucial. Only government can provide this.

It is therefore not surprising that sectoral frameworks have begun to emerge across the utilities – having remained very much in place in the educational and health services. There are now *frameworks* for rail, road, water, air, and – very gradually – for energy.<sup>31</sup> Communications has some of the components in place, though the excess capacity built in the stock-market bubble remains as an overhang, reducing the necessity, except perhaps in peripheral broadband services.

What sort of things should go into these frameworks? The government is typically not the provider in most of these areas, and hence is, in effect, setting out the context in which the private sector will carry out the investments. It is a public-private framework, in which there is an implicit contract between the two sides. Government says what it wants, and the private sector delivers, provided it can reasonably expect a return. This proviso is, in effect, that the time inconsistency problem will be resolved.

A sectoral framework needs some detail. A view needs to be taken as to the likely paths of demand, and an intelligent purchaser needs to form some judgment about supply. This is not to 'predict and provide', but it is to form a view of the range of plausible future requirements. For example, in the water industry, a view needs to be taken of the likely future resource requirements, since reservoirs need to be built in advance. Furthermore, some decisions need to be made as to which to build – in consultation with the industry. It makes no sense to build reservoirs on spec. The market cannot deliver a coordinated outcome here. Remember, too, that these are all complementary activities to the economy as a whole. The costs of insufficient supply are much greater than the costs of marginal oversupply. Governments need to be risk-averse, as opposed to the market, which may actually benefit from undersupply.

The combination of complementarity, risk aversion, and the coordination problems, and the time inconsistency risk to investors, mean that the government will need to decide the shape of large-scale future infrastructure.

It cannot be delegated to the private sector. Sectoral frameworks therefore go beyond the objectives and the targets, and need to fill in some of the detail – notably the big decisions about runways, energy networks, reservoirs, roads and the shape of the rail network.

In addition to the efficiency arguments for this greater role for government, there is the democratic argument. Large-scale infrastructure affects many people's lives. Planning decisions are taken, land is compulsorily purchased, house prices are affected, and noise and other forms of pollution may result. Such significant impacts on property rights and lifestyles are less readily accepted when conducted by private firms than by elected representatives. And where these democratic concerns are neglected, there tend to be backlashes. For private investors, overriding legitimate democratic processes risk *ex post* legislative action. Recovering the sunk and fixed costs of investment tends to be easier when the democratic channels were used *ex ante*.

Having some sort of a framework does not, however, mean that central government or even ministers should be the location where the detail is filled in. These sectors are complex, there is lots of technical detail, models are needed, and, crucially, flexibility is required to make adjustments over time. So the next question is: who should do the *development* of the frameworks? There are broadly three candidates – government departments, agencies, and the regulatory offices created in the 1980s and 1990s.

Government departments do not have a good record when it comes to sectoral planning, and it is one of the achievements of privatisation that this approach has been largely discredited. Departments seldom limited their activities to frameworks, but got enmeshed in the details. That, in turn, left them wide open to capture by the industries. The Ministry of Agriculture, Fisheries and Food (MAFF) famously became the *de facto* ministry for the National Farmers Union, the Department of Transport ended up in the pocket of road-builders, whilst the Department of Energy was captured by the Central Electricity Generating Board and ended up driving forward the nuclear programme.

Departments are vulnerable to vertical capture by the political process too. They are directed by politicians with short-term agendas. The setting out of longer-term frameworks that are credible is always vulnerable to the electoral cycle. The limitation to setting the objectives and targets in a framework is altogether different from intervening on prices and investment to suit electoral demands.

Agencies are one stage removed, but have an element of political control.<sup>32</sup> If governments and government departments had a bad track record for the details of policy implementation, it was for the very good reason that they had blurred the distinction between policy and delivery. Politicians and their departments had the overarching task of defining the objectives and the associated trade-offs, and setting out a framework for the evolution of the core infrastructure investments. This could not be delegated.

What could be delegated was delivery, but this is quite different from what has been delegated to the regulatory offices, namely the interpretation of the public interest to 'good chaps' through the general duties. The delegation of delivery is very much the everyday business of agencies, at one stage removed from government. Agencies do not eliminate discretion, but rather allow its exercise within properly defined frameworks. This model is more familiar in the public than the private sector: there are agencies for dealing with drivers' and vehicle licences, for prison services, and so on. All these bodies have their problems, but in general the record has not been a bad one. Where there has been failure, it is typically associated with the agencies' management, and where there has been direct conflict with departments, it has arisen where politicians have tried to second-guess or interfere with delegated powers.<sup>33</sup>

The agency model typically involves a two-way process with departments. Agencies give policy advice to government as well as implementing it. This requires the establishment of technical expertise. Regulatory offices do not usually have a policy role and hence when they stray into policy – as illustrated above in the case of Ofwat and Ofgem – it is usually implicit rather than open and transparent for public inspection. Agencies therefore tend to be more democratically accountable.

Agencies (and indeed many Authorities) are usually given guidance as to the exercise of their statutory functions, a process that has less satisfactorily been extended to regulatory offices. The guidance takes the form of tying up the policy framework with the deliverer. In the case of the regulatory offices, guidance tries to replicate this connection too. Thus, Ofwat will eventually receive guidance from the Secretary of State on the quality environment programme, and Ofgem has in effect been told to implement the 2003 Energy White Paper, 'Our Energy Future – Creating a Low-carbon Economy' (DTI, 2003a), notwithstanding that this is not a primary duty.<sup>34</sup>

Finally, the agency model is not primarily focused on economics and efficiency to the practical exclusion or marginalisation of other objectives. It

tends to recognise the wider public interest, including environmental and economy-wide effects, social concerns and international dimensions.

Alongside the framework approach, the agency model is in fact gradually being adopted across the utility sector. In water, there is the Environment Agency. In rail, there is the SRA. In communications, the new Ofcom is much more like an agency than a traditional economic regulator. In aviation, the economic regulator is incorporated into the CAA. Only in energy is the economic regulator model still dominant, and it is noticeable that it is here that much of the disquiet about regulation surfaces. Completing the process, as detailed below, will further clarify the position.

But advocating the broader agency approach does not imply that the economic aspects of regulation should simply be forgotten. Economic efficiency may not be the only objective, but it remains extremely important. These functions can be transferred into the agencies, preferably along the CAA lines, with their own directorate or unit, reporting to the main board of the agency. Indeed, one of the criticisms that have been rightly directed at the agencies where there are also economic regulators is that there tends to be a lack of economic expertise inside the agencies, leading to poorer decision-making. For example, the SRA in effect decides on outputs, leaving it to the economic regulator at the ORR to work out the costs. Similarly at the Environment Agency, the level of cost-benefit expertise has in the past been criticised. If delivery is to be effective, outputs need to be determined simultaneously with costs, and not independently. Merging the economic functions into agencies would therefore improve the quality of delivery and probably reduce costs too.

Defenders of the current regulatory offices – among both their management and some of the privatised utilities – have argued that such mergers of offices into agencies would prejudice their independence, and hence expose the private companies to greater political interference. This, however, is to conflate two separate arguments: the role and duty of regulators to ensure that companies can finance their functions; and the need for a coherent (joined-up) framework which takes proper account of costs and benefits. The solution to the former is via the legal duty that can be carried over into agencies (and the right to appeal to the Competition Commission); the latter is best addressed in a single agency.<sup>35</sup>

In each of the sectors there are a number of other bodies with specialist functions. Sometimes these are very well defined and function in an independent way. The Drinking Water Inspectorate is a classic example, doing

exactly what its title indicates. Safety regulation is often separately organised too. Where the task is technical rather than requiring public interest judgments, this decentralisation has merits. However, where there is no clear agency focus – as in energy – the results can be messy. As noted above, there is a whole host of energy bodies, from the Energy Saving Trust to the Carbon Trust and including the Joint Energy Security of Supply Working Group (JESS), which overlap with the DTI, Defra and Ofgem. The result is bureaucracy, extra costs, institutional rivalry and poor delivery.

Turning to the instruments, a programme of reform must focus on the core requirements identified above: sensitivity to current needs and simultaneous solutions of market failures and risk reduction. As set out above, the overriding theme of the next decade is broadly one of investment rather than asset-sweating. A focus on investment requires that the cost of capital be kept low, and that there is coordination of network and associated capital investments. RPI – X, by contrast, creates high-powered incentives to minimise costs, and a corresponding high cost of capital. The economic regulators try to avoid playing a coordination role.

Regulatory reform focused on investment therefore requires coordination through policy frameworks, and regulatory bodies aimed at delivery of those frameworks. The appropriate instruments require a migration from RPI – X as originally conceived towards a more investment-friendly regime. This has at least three main parts: a longer period, consistent with the policy framework; greater scope for adjustment within the period; and a greater specification of outputs, in particular with regard to the security of supply.

Fortunately, RPI – X can be made to mean virtually anything, and hence it can make this migration. All three of the reforms can be built under its umbrella. There is nothing sacrosanct about five-year periods; the interim determination mechanism in water provides an instrument for adjustment which can be extended and adapted; and within RPI – X it is possible to place greater emphasis on system resilience and enhancement. In some areas, this means paying directly for the insurance that networks and supporting assets provide against changes in demand through explicit mechanisms, such as capacity payments. In others, it can be built into the capital expenditure plans of the industries. Where there are fears that this might lead to gold-plating, a properly designed interim determination mechanism can introduce an element of claw-back if companies fail to invest or network performance is below the agreed level. Efficiency incentives are not necessarily blunted in the process;

rather, the distinction would be reinforced between those aspects of the business within management's control and the exogenous changes made by the regulatory agency as the policy framework unfolds. The regulatory contract would be strengthened through clearer specification.

Once the policy framework is in place, the RPI – X instrument can be readily adapted – indeed, some of this adaptation is already taking place. That leaves the other market failures to be addressed. The golden rule – that there should be at least as many instruments as targets – indicates that we need additional instruments, and fortunately these are readily available. In the environmental case, carbon taxes *or* emissions trading can play this role, alongside R&D instruments to encourage non-carbon technologies. In water, more traditional command-and-control instruments tend to be favoured where pollution is diffuse and location-specific, though, even here, nitrate and pesticides taxes have a role to play. But, crucially, such instruments only work effectively if the agency has a specific primary remit to deliver the environmental objectives – which the economic regulators clearly do not.<sup>36</sup>

Social factors are currently addressed through a host of different mechanisms, from general social security provisions, sectoral supports (such as winter fuel payments and transport passes), and direct cross-subsidies. Because poverty is heterogeneous in its causes and manifestations, a plurality of support mechanisms is likely to be required. The liberalisation of utility services makes direct cross-subsidies very hard to carry through, since they create competitive handicaps to incumbents. Such cross-subsidies do not however necessarily need to be eliminated – they can be combined with liberalised markets where they are shared through levies or other neutral mechanisms. But for the networks themselves, which are natural monopolies, there is no competition, and hence it is on these that such cross-subsidies can be focused. The system charges are the correct tax bases for such policies, and such tax bases should not be confused with the need for local delivery of the results.

#### **Sectoral implications: some examples**

These three main reforms – policy frameworks; the delegation of the policy objectives (rather than discretion over the public interest) to agencies; and appropriate investment, environmental and social instruments – provide the direction for reforms in each of the main sectors. They are applied separately to each of the sectors – energy, water, transport and communications – because there is a sufficient degree of specialised features of each sector, which

distinguishes them from the others (hence the element of non-substitution between them), and because, within them, there is considerable substitution.

In the *energy sector*, the 2003 White Paper, 'Our Energy Future: Creating a Low Economy Future' (DTI, 2003a), provides confused overarching objectives, without a specification of the trade-offs between them. Energy regulatory reform therefore starts with a clarification of these objectives. The next step is to provide a framework for the next decade, addressing the systems' adaptation and development to take account of the large-scale import of gas, embedded generation for renewables and the approach towards the retirement of most of the coal and nuclear capacity. The two principal objectives - CO<sub>2</sub> reduction and security of supply - require greater specification.

These clarified objectives and the policy framework should then be delegated to a new Energy Agency, which would incorporate both the Energy Saving Trust and the Carbon Trust, as well as Ofgem's functions, some parts of the DTI energy team, and the Defra energy efficiency and renewables team. There would be a single focus, where expertise would be concentrated and knowledge built. The Energy Agency would be tasked with delivering the objectives and policy framework, and it would not be delegated the task of interpreting the public interest.

The Energy Agency would have a number of instruments at its disposal. The RPI - X regime would be adapted to meet its security-of-supply objective, while the elimination of the overlapping and sometimes competing interests of the various environmental regulatory bodies would help to streamline the main CO<sub>2</sub> instruments. The Agency would have a key role in developing and implementing the EU Emissions Trading Scheme, and, by bringing the CO<sub>2</sub> delivery within the single body together with Ofgem's remit, there would be greater incentive to ensure that the electricity trading arrangements encouraged the integration of environmental trading within NETA, as well as paying appropriate regard within NETA to the embedded renewable generators. The design of system charges would also take greater account of social cross-subsidies.

In *water*, there is already an outline longer-term policy framework, although, in relying on the politically attractive - and very elastic - concept of sustainable development, the framework does not engage very much with the way in which infrastructure and resources might be developed to meet the demands for water and improvements to the water environment. Defra has the advantage of spanning water and agriculture, and therefore considerable opportunity to integrate policy towards diffuse agriculture pollution with the more traditional

water industry concerns. So far, the policy framework remains underdeveloped, but the EU Water Framework Directive and the growing demands in the south-east provide the opportunity to define its contents more precisely.

The problems in water arise in the tension between the Environment Agency and Ofwat. The former has a reasonably well-defined delivery role, while the latter has considerable discretion to interpret the public interest through its duty to customers. There is a strong case for bringing the Agency's determination of the water environment programme of improvements together with the costings and charging, and to determine the outputs and prices together within one institution, rather than as the outcome of an often acrimonious competition between the two bodies.

Merging the Environment Agency and Ofwat would however make more sense if the Environment Agency itself were better suited to its delivery role. It has over 10,000 staff, many of whom are involved in production activities associated with flood defence. It is therefore very different in size and scope to the Energy Agency proposed above, which would be small and focused. A corollary of the merging of the Environment Agency and Ofwat would therefore be a substantial overhaul of the Environment Agency itself, splitting out production activities and thereby substantially cutting back on its scale. This approach was proposed by the author when the Agency was set up, and further advanced at the 2001 quinquennial review of the Agency.<sup>37</sup> Further opportunities for changes to the Environment Agency's scope arise with the Haskins Report on rural affairs which proposes a Land Agency, incorporating English Nature (Haskins, 2003).

Slimming down the Environment Agency by separating off production would not change its remit to carry integrated pollution control forward. If, however, the Energy Agency took over the CO<sub>2</sub> reduction objective with respect to the energy sector (and the transport regulators ended up with a similar remit too - see below), and if land matters were concentrated within a new body along the Haskins Report lines, the Environment Agency would increasingly become a water agency rather than a water, land and air agency. Integrated pollution control was never fully implemented in the Environment Agency when it was set up, largely because the National Rivers Authority took over the, much smaller, HM Inspectorate of Pollution and dominated it. The real integration of the three pollution media is a governmental one, and it is Defra's task in its policy frameworks to sort this out. Delegating the trade-off has - unsurprisingly - not been very successful.

In *transport*, the change from the 1990s' approach has been much swifter, in response to the chaos and financial distress of the sector, and the changing political priorities. There is a 10 Year Plan, and an agency – the SRA – has been set up. However, the execution of the policy has been very poor. The Prescott White Paper on Integrated Transport Strategy, 'A Better Quality of Life – A Strategy for Sustainable Development for the UK' (DETR, 1999), envisaged a renaissance of the railways, without a reality check as to its financing. Railtrack's weak balance sheet could not provide the basis for financing one of the largest peace-time investment programmes. The Treasury did not provide the support for the DETR White Paper, and, in setting up the SRA, the government left the ORR in existence, thereby separating the determination of outputs from their costs and financing. No amount of regulatory reform can overcome bad management, and the SRA emphasis on PR and exhortation (and even newspaper advertising to respond to its critics)<sup>38</sup> has not helped much. The resulting bureaucracy and confusion of roles has added to the chaos. It is far from clear who determines capital expenditure – the Treasury, the DfT, the SRA, the board of Network Rail or the ORR.

As a first step in railways, some culling is in order, both within existing bodies and between them. The SRA's bureaucracy is unwieldy and can be cut back. The ORR's economic skills can be incorporated into the SRA as an economic regulation unit, on the same model as the CAA.

In roads, the regulatory framework is very confused, and more so with the development of new instruments such as congestion charging. The players are the Treasury and the DfT, local government and the Highways Agency, as well as various commissioners. Road charging through taxes is in the hands of the Treasury, as effectively is the vehicle licence tax. Congestion charging in London falls under the capital's authorities. There is very little link between road policy and road instruments on the one hand, and rail policy and instruments and airport policy on the other. Though it is beyond the scope of this paper to provide detailed reform proposals, the three principles of reform suggest: an overarching statement of transport policy and the relative roles of the three main modes; a single agency for each component (around the SRA, the Highways Agency and the CAA); and the harmonisation of CO<sub>2</sub> and user charges across the sector.

In the aviation case, the existing regulatory framework is much better designed – sufficiently so to provide a model to the others. The government has addressed the policy framework, including the specification of new

infrastructure, in its December 2003 White Paper, 'The Future of Air Transport' (DfT, 2003). This national decision will provide the basis for the CAA to facilitate its provision and a degree of guarantee to investors that their investments will not be expropriated *ex post*. The time inconsistency problem will thereby be, at least partially, addressed. Delivery is through private provision, and the CAA has the benefit of the Economic Regulation Group within it to ensure that costs are controlled and projects are efficiently delivered. There is no evidence that BAA's investors have fared worse than other utilities covered by independent regulatory offices.<sup>39</sup>

The weaknesses in aviation come in the trade-offs with rail and road and the complementarity of their networks. The CAA does not have a remit that extends to the building of interconnections between the transport networks connecting up airports. Though it is for government to ensure coherence – and hence the DfT to link the three modes – the fact that there are poorly functioning institutions and confusion in rail and a lack of a clear unified body for roads makes the task more difficult. In a simplified transport institutional structure, there is room for formal or informal consultation and cooperation between the CAA, a reformed SRA and a road agency.

<sup>30</sup> See Corry (2003).

<sup>31</sup> These are: the '10-Year Plan for Transport' (DETR, 2000); 'Directing the Flow' (Defra, 2002) for water; the White Paper, 'The Future of Air Transport' (DfT, 2003); and the White Paper, 'Our Energy Future' (DTI, 2003).

<sup>32</sup> Throughout the paper, the term 'agency' is used in a loose and general sense. Many 'authorities' have delivery functions akin to agencies, and the argument here does not turn on precise definitions.

<sup>33</sup> For example, in the famous case of Derek Lewis and Michael Howard over the sacking of a prison governor.

<sup>34</sup> DTI (2003*a* and *b*).

<sup>35</sup> The time inconsistency problem is much more acute under pure RPI – X regulation than under rate-of-return regimes.

<sup>36</sup> Adding 'sustainable development' to the objectives does not help much, since the concept itself is poorly defined, and the trade-offs between social, environmental and economic growth components are deliberately left vague.

<sup>37</sup> See Helm (1992) and (2001*a*).

<sup>38</sup> See, for example, *The Times*, September 3rd 2003, p. 17.

<sup>39</sup> Crucially, BAA's shareholders are protected by the Competition Commission's role in determining prices.

## 6. CONCLUSIONS

In this paper, the case has been presented for a shift in the focus of regulation from asset-sweating to investment, recognising that monopoly and market power are not the only components of the public interest. The environmental and social matters should not be secondary.

The proposals for reform are based on a critique of the current system as it developed haphazardly in the 1980s and 1990s. A central part of this critique is that economic regulators and their offices have been designed on the basis of the delegation of the determination of the public interest. This is the origin of the discretion that plagues the efficient delivery of regulation and also creates the democratic deficit. What is required, it has been argued, is for the public interest to be decided by democratically elected politicians, not 'independent' regulators. Credibility is severely lacking in the British approach to regulation, creating the time inconsistency problem, and thereby raising the cost of capital and biasing investment towards the short term. Discretion should be about delivery, not about the public interest itself.

Regulation cannot therefore be much improved without institutional reform, and a series of steps – some of which are already in play – have been set out. These are based upon the fundamental distinction between policy objectives and the policy frameworks, on the one hand – the job of government – and delivery, on the other – the job of agencies. It has been argued that this distinction requires specific sectoral policy developments, and the reform of the supporting institutions. It is proposed that there be a new Energy Agency (to take over the functions of the Energy Saving Trust, the Carbon Trust and Ofgem, and some functions of the DTI and Defra), with a remit to meet the CO<sub>2</sub> targets and security of supply; that the Environment Agency be slimmed down and Ofwat then merged into it; and that the SRA incorporate the ORR. More tentative recommendations are made for road regulation. The communications sector's Ofcom is already very much in agency format.

With regard to regulatory instruments, RPI – X as originally intended has had its day, and there are a number of ways to encourage its migration from asset-sweating (broadly the right approach to the 1980s and 1990s) towards one focused on investment and security of supply – notably longer periods

with clearer policy frameworks, more interim determinations and more emphasis on system resilience and security. Environmental and social concerns merit their own instruments, and these have been briefly surveyed.

These broad reform themes need to be detailed and adapted for each sector. Nevertheless, they provide the guiding principles for dealing with the very substantial investment challenges of the next decade. The energy sector has recently yielded some nasty surprises. The railways are almost universally regarded as inadequate, and road congestion continues its relentless growth. The EU Water Framework Directive will require a continuing capital-intensive programme. The infrastructure challenge is very great, and existing institutions and instruments are not fit for purpose.

These reforms should not only clarify the relationships and roles in the utility sectors; they read across well into the public sector, and help to sort out some of the confusion between departments, agencies, and schools and hospitals too. The separation of policy and delivery, in simplified structures, is as relevant to education and health as it is to electricity and water.

Finally, a by-product of these proposals is a cull of regulators and regulatory institutions. For reasons explained in this paper, regulation tends to grow as politicians and regulators 'respond' to each crisis. Without a proactive stance, the regulatory burden will just go on growing. These reforms get rid of some of the bureaucracy and the pursuit of bureaucratic interests that inevitably follow from proliferating bodies and instruments. A glance at all the bodies in the energy sector and the myriad instruments designed to deal with carbon problems cannot fail to excite the conclusion that it must be possible to do more to achieve the policy objectives with less bureaucracy. A quarter of a century after the Conservatives came to power, ushering the first substantial reform of the way in which core infrastructure and utility services were delivered since the great nationalisations of the Attlee government in the late 1940s, and creating the new regulatory institutions and instruments, it is time to overhaul the regulatory framework to meet the new priorities of the twenty-first century.

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