

Where next for utility regulation?

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Beesley Lecture, Institute of Directors, London, 16 September 2010

Introduction

This seems to be a time for reviewing utility regulation in the UK, and there are some obvious reasons why, including, of course, the recent arrival of a new government.

The closing Beesley lecture of this series will focus on Ofgem's review of RPI-X regulation, linked to the twentieth anniversary of privatization and price regulation in the electricity sector, and again it seems natural that such across-the-board reviews be undertaken from time to time.

It is also frequently argued that 'things ain't what they used to be', and that new factors are entering the regulatory equations, which, in at least some sectors, is causing a fundamental shift in the appropriate style of regulation. Thus, Mark Jamison has contrasted the traditional technical requirements of utility regulation, based on economics, accounting, law and engineering, with 'adaptive work' characterised as follows¹:

"... the regulator must be careful to maintain ... legitimacy when dealing with adaptive work, which in contrast to technical work is the work of learning about changed circumstances and making changes in values, traditions, attitudes, and behaviors that people hold dear. The need for adaptive work arises when fundamental changes in a group's (or an individual's) environment call for a rethinking of basic goals and strategies to thrive or even just survive."

The emergence of climate change issues is the most frequently cited example of a major driver of adaptive work in sectoral regulation in areas such as energy and water, although, of course, there are major questions as to the nature and scope of the appropriate contributions of sectoral regulatory agencies to environmental policy, since (a) it has not been a traditional part of their duties and (b) they are very far from being alone among institutions to whom the relevant responsibilities might be entrusted. In my view, the principal adaptations are best led from elsewhere, not from sectoral agencies.

¹ Mark Jamison, Providing Stability While Leading Change, July 2008. ACCC, 9th Regulatory Conference, "Revisiting the Rationale for Regulation".

Moreover, looking back, the climate change issues have been around for as long as RPI-X in electricity, at least at the technical level. I have quoted it before in a Beesley lecture, but let me again cite the closing paragraph of a paper that John Vickers and I wrote at the time of electricity privatisation, almost exactly twenty years ago ²:

“As a result of increasing public policy concern about the effects of atmospheric emissions of waste gases ... environmental regulation can be expected to be the major issue facing the ESI [Electricity Supply Industry], worldwide, in the 1990s. Since the new regulatory framework in Britain was not developed with environmental problems in mind, there is a danger that, at the international level, it will come to be treated as a mere sideshow to the main (environmental) event. If so, that would be a pity; for, as we hope we have shown, the information the experiment promises to yield will be relevant in many contexts, not least in the context of environmental regulation itself. The reforms may not be widely copied, but they do merit close scrutiny.”

The point for today is twofold:

- First, the exhortation to learn from experience has been largely ignored for two decades. Whereas the Economist could describe the UK electricity sector as *“the poster child of global liberalisation”* as recently as 2002, the international verdict on UK climate change policy is closer to that of class dunce. Not only have we not learned from past successes, but we also appear to have unlearned what previously has been known.
- The necessary learning is simple. Independent, delegated, ‘de-politicised’ regulation (I will give a more precise characterisation later) works well. Climate change policy is highly ‘politicised’, and is unlikely to work well. For so long as this is the case, we will not only have poorly environmental policy, but the ‘politicisation’ can be expected to spread to, and tend to undermine, good regulatory practice in sectors such as energy, water and transport.

Politicians can be criticised for having an over-long learning period; but the supposed technical experts cannot be excused from all responsibility. My other principal argument this evening is that many of the ‘fault lines’ in utility regulation today are very old ones, and that the relevant trade-offs and choices have not been sufficiently emphasised (and, if necessary, shouted from the rooftops) by those whose duty it should have been to explain that the achievement of some combinations of aspirations is, quite simply, infeasible. The argument here goes beyond the utility sectors, and includes areas such as banking supervision/regulation and aspects of competition policy, but tonight I will focus on the utilities.

² J. Vickers and G. Yarrow, *The British Electricity Experiment*, Economic Policy, 1991.

I will discuss the regulatory fault lines under five headings:

- Regulatory cultures
- Independent regulation and the separation of powers.
- Climate change regulation.
- Cross-subsidisation and consumerism.
- Monopoly and the discovery/innovation problem.

There will not be time to develop arguments in any great detail, but let me set out, right at the outset, the policy directions to which I think that analysis of the relevant trade-offs, on the basis of historical experience and evidence, leads:

- Regulation is best accomplished by small platoons, operating with clear and limited, devolved duties/responsibilities and powers.
- Policy co-ordination among these small platoons is a matter for politicians, preferably without creating further layers of bureaucracy and, when evaluating how the policy system as a whole is working, preferably by placing greater reliance on quasi-judicial assessment procedures.
- Quasi-judicial, rule-making and executive responsibilities of sectoral regulators should be separated/unbundled wherever possible, and the portfolios of responsibilities rebalanced toward the first two and away from the third of these.
- Climate change should have its own small platoon (independent regulator), separate from utility regulators; in the absence of which energy regulation is at now at serious risk of major failure.
- Key objectives of the climate change regulator should be to facilitate the development of environmental markets and to promote innovations that lessen the adverse impact of economic activity on the environment; and a key power should be the ability to develop and administer a technological innovation prize system on a much more substantial scale than any prize system to date.
- Consumer representation and advocacy functions should be clearly separated from network regulation and competition policy. Utility regulators should not be consumer watchdogs.

Regulatory cultures

An early history lesson for students of regulation – in my case the teacher was Irwin Stelzer³, who will be speaking here next week – is that the character of the regulators matters a whole lot. Many of the issues to be settled may be technical in nature, but there are choices to be made (there is regulatory discretion), and those choices matter. Regulatory cultures are also extremely important, for similar reasons; and in circumstances of rapid technological change, we need to be cognisant of the risk that bureaucratic, administrative cultures, driven by preoccupation with process, document production, etc. can give rise to ‘stranded regulation’ that is a dampener on economic progress.

The early cultures of UK sectoral regulatory agencies were, I think, heavily influenced by the nature of the immediate tasks with which the agencies were confronted. There was a strong sense of ‘transition’ in the policy environment, away from publicly owned monopolies and toward private ownership and a relatively undefined mix of competition, markets and regulation. Many of the challenges were either new or had not been seen for two or three generations. Perhaps slightly unusually for Britain, the early regulatory cultures had very strong, intellectual components. The establishment of the Beesley lectures themselves reflects this aspect of the early history.

For me, this was brought home by a comment by Professor Len Waverman, a predecessor as one of the organisers of these lectures. Speaking at an Ofgem seminar some years ago now, Len said that, on joining the advisory board, he had expected to find just another bureaucratic, regulatory organisation, of a type with which he was well familiar in North America; but had, in fact, found something that was much more like a university, pursuing an approach he described as ‘hard headed intellectualism’.

Circumstances change, however, and regulators and regulatory cultures change with them. Some adjustments were natural and desirable. It was always going to be the case, for example, that the law would become more important over time: a transition from central planning (public monopoly) to markets, with their many participants, is necessarily a transition from fiat-intensive to more rules-based mechanisms for the allocation of economic resources. Freer markets mean more, not fewer, rules; and rules require rule-makers/legislators, enforcers and adjudicators/judges.

Other adjustments, however, have been both avoidable and undesirable; and have resulted from discretionary choices made both within regulatory agencies and in their immediate policy environments. Let me illustrate with a story.

³ At the top of his reading list was Thomas K. McCraw, *Prophets of Regulation*, Harvard University Press, 1984, covering the careers of US regulators Adams, Brandeis, Landis and Kahn.

A few years ago, a colleague questioned a regulatory official about a claim that a particular decision would lead to several hundreds of millions of pounds worth of consumer benefits. The question was directed at how the number had been arrived at, since, *prima facie*, it looked a rather big effect from what might reasonably have been viewed as a relatively modest decision. The answer was not an account of the estimation methods adopted, but rather a statement that, of course, no-one in the agency believed that number – it was simply there for the Daily Mail et al.

That, I think, signifies a significant shift in the regulatory culture; which is consistent with a second episode when, sat in a meeting in SW1 dealing with regulatory issues, a young civil servant whispered “*This is what it must have been like in the Soviet Union: everyone is going through the motions, but no-one believes.*”

There is some comfort here in the fact that the officials concerned were aware of the distinction between (a) what was true and (b) what was going to be said in terms of the ‘line to take’; but I fear that, since those conversations, things have gotten worse in some parts of the system. Increasingly I come across regulatory officials who act as if there is no difference between truthful statements and the things being claimed in public statements about the benefits of regulation (which, being sometimes an order of magnitude or more higher than the relevant regulatory costs involved, can imply rates of return on public outlays several hundreds of percent higher than anything ever claimed by Bernie Madoff).

This doesn’t appear to be straight dishonesty: there is no indication of an overt intention to deceive. Rather, it appears to be the result of circumstances that have been most clearly analysed by Professor Harry Frankfurt of Princeton University, in his near perfect little essay *On Bullshit*.⁴ In Frankfurt’s view, bullshit is discourse or documentary material produced under conditions of *indifference to truth*.

This is a long way from hard headed intellectualism, and it is a particularly dangerous in regulatory affairs. Bullshit is, of course, a normal feature of democratic politics, and, in its proper place, can serve positive social functions. Some decisions are simply too hard to bear over-close contact with the truth⁵ – questions concerning allocation of scarce resources to some medical treatments provide examples – and a softening of the edges of potential conflicts can keep social systems on track. Regulators, however, are supposed to take hard, technical decisions that affect basic economic services, and indifference to the truth is a disturbing culture to find colonising some of the relevant policy structures.

These are observations about changes in regulatory cultures, but how are they to be explained? Let me offer two candidate accounts (taken from the many potential factors that may have been at work):

⁴ H. Frankfurt, *On Bullshit*, Princeton University Press, 2008; which merits classification in the same category as Orwell’s *Politics and the English Language*.

⁵ “Go, go, go said the bird: human kind cannot bear very much reality”, T.S. Eliot, *Burnt Norton*, Four Quartets.

- We have seen a re-politicisation of utility regulation. Different sectors have different stories here, but I will now consider some general issues concerning regulatory independence below.
- The growth in the size and responsibilities of some of the agencies has fostered *organisational* cultures that have tended to become more 'executive/bureaucratic' in nature, and less legislative and judicial.

The dominance of executive cultures may be partly a reflection of the relative strength of the executive arm of government in the UK, but it arises from a more generic fault line in the conduct of utility regulation. Writing of the history of (federal) regulatory agencies in the US, Professor Daniel Spulber⁶ wrote that:

“The dilemma faced by Congress in establishing regulatory agencies is that a dual purpose is envisioned. Regulatory agencies must be accountable to the Congress or the Executive and represent an exercise of congressional or executive power. However, it is desired that the regulatory issues proceed fairly, that they accord individuals the due process of law, and that their decisions are consistent with judicial review. Unfortunately, achieving these two purposes within a single agency may be inconsistent or problematic at best.”

He further wrote that:

“The multiple goals that Congress attaches to the regulatory process has resulted in a broad range of powers for regulatory agencies and diverse instruments for carrying out the agency’s mandate. ... Thus, the powers and procedures of regulatory agencies resemble those of the legislative, executive and judicial branches of government. It has frequently been pointed out that this combination of functions violates, at least in principle, the constitutional objective of separation and delegation of powers.”

This type of conglomeration and entanglement of duties and powers is readily recognisable in the UK system; and I conjecture that such conglomeration/entanglement/bundling can be expected, within the context of the broader UK structure of government and its traditions, to lead to the dominance of a managerial/executive culture, which is inappropriate for the most important of the tasks faced by regulators.

Independent regulation and the separation of powers

The arguments for independent regulation are now familiar. They have, for example, been codified in World Bank handbooks and documents which have been promulgated around

⁶ D.F. Spulber, *Regulation and Markets*, MIT Press, Cambridge Mass., 1989.

the world, and which have contributed to the development of literally hundreds of new agencies.

At the most basic level, the point is to de-politicise certain technical aspects of the development and enforcement of economic policies, particularly where political involvement might deter private investment in a sector (for fear of capital expropriation via decisions that would redistribute economic income away from investors – politics being an arena in which transfers of resources from one group to another are a matter of some great interest; where, in Adam Smith’s words, we see the “*clamorous importunity of partial interests*”).

It is not, however, just a matter of uncertainties arising from the battles of interest groups. Democratic politicians almost inevitably have longish lists of good things that they might want to achieve and good causes that they want to help (there are lots of ways in which votes can be won and lost), but the priorities among them are liable to shift rather rapidly depending upon ‘events’, and on the coverage of those ‘events’ in the media. Political preferences are notoriously unstable and volatile over time, which potentially has awkward implications for economic sectors in which investment periods tend to be long. Independent regulation serves as a buffer, which protects certain elements of policy making from the worst of the consequences.

This helps make clear that it is a particular type of (unstable/volatile) political influence that independent regulation is designed to avoid. Regulators are necessarily accountable to the Parliament that created them, and, in less formal ways, to the public that they serve. They are bound also to take account of the less volatile aspects of public policy, where settled opinions exist.

De-politicisation, in the sense of elimination of more opportunistic and unstable political influences, is easier said than done, however. Some regulators have not been as steadfast as might have been hoped in resisting the siren songs of passing political fancies, and the board structures that have been created in the agencies do not appear to have had a major effect in stiffening backbones. Where breaches in the barriers against opportunist political intrusion have occurred, non-executive directors have been unwilling or unable to fill the gaps.

Overall, the institutional structures established during the course of the UK privatisation programme seem to have proved less durable than the regulatory commissions in the US. The current government reviews, which have been triggered by more than just the current precarious fiscal position (utility regulators tend to be financed via license fees, not the Exchequer), are symptomatic of this.

Notwithstanding these points, there are also some clear political incentives not to let the situation continue to deteriorate. One of the last things that a government engaged in a

major fiscal retrenchment will want to do is to chill private sector investment in infrastructure.

The principle of independent regulation should, therefore, be safe going forward; yet the current position feels uncomfortable. Governments sometimes do things that they don't want to do, unintentionally, for want of an understanding of the more subtle, indirect consequences of their actions. Study of these unintended consequences was born with political economy, and political economy tells us that pressures toward the politicisation of sectoral regulation will continue to exist. Perhaps the two most forceful of these pressures are 'consumerism' and environmentalism.

Cross-subsidisation and consumerism

The standard (economics) textbook answer to the question *why are utilities subject to price control?* is couched in terms of the existence of natural monopoly conditions in networks, and the consequent desirability of constraining pricing when those networks are in the hands of profit-seeking owners. Economic history, however, indicates that things are a bit more complicated than that.

Working from evidence of utilities' histories, one of the leading academics in the area, Professor Sam Peltzman of the University of Chicago, has stressed the importance of political preferences for cross-subsidisation in the (historic) objectives of state-owned enterprises, including in utility sectors, and in (historic) regulatory objectives of regulated private monopolies. The argument is that, in the absence of state intervention, the relevant industries would sell similar services at potentially very different prices to different groups of customers (particularly differently located customers).

*"The pervasive tendency of state intervention has been to suppress these differences, usually by creating monopoly rents which are partially dissipated either in cross-subsidies or via explicit subsidies to the high-cost customers."*⁷

The economic argument here is a very powerful one, and, as I pointed out a long time ago, readily explains policy failures such as the 1967 White Paper on Nationalised Industries:

*"... if cross-subsidisation objectives lie at the very heart of regulatory policy for the network industries, an exhortation not to cross-subsidise is unlikely to have much effect."*⁸

⁷ Sam Peltzman, *The Control and Performance of State-Owned Enterprises: Comment*, in MacAvoy, Stanbury, Yarrow and Zeckhauser (eds), *Privatization and State-Owned Enterprises*, Rochester Studies in Managerial Economics and Policy, Kluwer Academic Publishers, Boston Mass., 1989.

⁸ *Four views of regulation*, Regulatory Policy Institute, Oxford, 1992.

Remarkably in a paper written in 1987, Peltzman anticipated increased state ownership in the banking sector, associated with political preferences for cross-subsidisation of credit in general and of “socially “worthy” sectors, such as housing” in particular; the general point being that there is a strong tension between competition, which tends to lead to cost-reflective prices, and political preferences. Thus, (in 1987) Peltzman wrote:

“In the US this has already led to an increase in government intervention. One large bank has become a state-owned enterprise and the guarantor agency has, willy nilly, gotten into the business of running a large portfolio of distressed loans.”

Déjà vu. Or, in the words of the song, when will they ever learn?

Privatization and liberalisation in utility sectors should, arguably, have settled the relevant trade-off. Where the policy decision is to open up markets and encourage competition, that decision should indicate a political willingness to give up the cross-subsidies (most likely on the argument that restriction of competition, where competition is feasible, is far too high a price to pay for the limited, distributional objective). Among other things, for example, the absence of competition can be expected to chill innovation and cost reduction, leading to higher prices for all or at least the great majority of consumers in the longer term, including many of those who might benefit from the cross subsidies in the shorter term.

It is hard, however, to find definitive policy statements from politicians to the effect that cross-subsidisation in utility sectors is a bad thing. Rather, the tendency has been to keep rather quiet about the unravelling effects that competition has on cross-subsidies. And where political influence re-appears, we might expect to see the distributional objectives re-emerging: any identifiable sub-set of consumers is an identifiable sub-set of voters.

I have labelled this section “consumerism”, because this seems to be the dominant mode of expression of the relevant distributional objectives in current conditions. The general tendency of competition to benefit consumers was recognised and explained in the *Wealth of Nations*, but the outcomes of competitive processes are necessarily uncertain and cannot always be expected to benefit each and every consumer, let alone to benefit different groups of consumers in equal ways.

By ‘consumerism’ I mean a tendency to seek to alter the outcomes of competitive market processes to benefit, at least in the short term, certain sub-groups of consumers, even when the effect is to render consumers as a whole worse off. Achievement of the immediate goals often requires some restriction of competition; at which point the approach becomes a real and present danger to economic progress.

Elevation of ‘consumerist’ agendas has been a feature of some regulated sectors over recent years, assisted by confusion between this fundamentally anti-market approach (directed at changing income distribution via tinkering with particular competitive processes, rather than via by general fiscal and social policy measures) and superficially

similar measures that facilitate the functioning of markets by, for example, improving their informational efficiency. Regulators could, however, be given greater protection from this wolf in sheep's clothing if consumer policy matters were separated/unbundled/disentangled from the business of regulating networks and from the business of supervising competitive markets.

Such a proposal is not as radical as it might seem at first sight. Where downstream markets are open to competition, the customers of network service providers are typically themselves commercial businesses (serving downstream markets), possibly of considerable size, and even traditional price regulation can increasingly be seen as adjudicating among the interests of major commercial players, with inputs from affected third parties, most notably end consumers. Reflecting this shift in the structure of markets for network services, today we find one of the originators of RPI-X price regulation, Professor Stephen Little child, actively advocating negotiated agreements between network providers and network users as alternatives to at least some, current regulatory functions.

On the competition front, most anti-trust enforcement activity around the world is separated from consumer protection policy, and we sometimes forget that the bundling together of these things that occurs in the OFT is not the norm. I understand the arguments of distinguished colleagues that consumer protection fits well with competition law enforcement, but I am not convinced that this position takes full account of the risks to competition policy posed by a consumerist agenda that is heavily focused on the *distribution* of the gains from trade among different consumer groups.

Whereas I once hoped that regulatory policy would come increasingly to work with similar principles to anti-trust policy, recent regulatory decisions in the UK suggest that the influence has tended to be the other way: traditional regulatory concerns with inter-consumer 'equity' are having a negative influence on the way in which competition policy is enforced. It will be interesting to see if this pattern continues as the new government firms up on its policies for utility regulation.

Climate change regulation

The conduct of regulatory policies in major sectors such as energy, water and transport is increasingly influenced by climate change issues. Sectoral regulators have been asked to do more in relation to environmental issues, and this has been a factor in the tendency to assign an ever wider range of duties to regulators, and hence toward regulatory conglomeration and entanglement. Even where first-order impacts have not yet occurred, such as in civil aviation, it is nevertheless the case that assessments of capital expenditure plans increasingly have to take account of possible developments in environmental policy, if

only because these development can be expected (for example) to affect future volumes of air traffic via impacts on the prices of journeys.

As with consumerism, environmental policies have tended to contribute to more interventionist public policies, but for reasons different from the traditional concerns about consumer subsidisation. The conventional wisdom sees climate change as a gigantic market failure, and there is a tendency to move quickly from that diagnosis to a prescribed remedy based, to a significant extent, on central planning and control of markets.

Not for the first time, the conventional wisdom will likely prove to be radically wrong. Consider a time past when growth of population was putting increasing pressure on common land. Today's conventional wisdom might have diagnosed a market failure – common land having the 'public good' aspect of non-excludability, leading to over-grazing because of absence of individual incentives to conserve (the 'tragedy of the commons') – and it might have prescribed central planning of land use as a remedy.

Fortunately, history took a different turn: new property rights were created by enclosures; the new rights brought incentives to conserve and improve; property rights brought markets in land; and a big, complex problem was broken up into myriad, solvable, small problems, with many, many people contributing to economic outcomes. Where, in contrast, big, complex 'problems'⁹ have been tackled by big government – as in the agricultural policies of the Soviet Union and Maoist China – the results have been disastrous.

The establishment of new property rights in land was, however, a complex and difficult process, and the same can be expected in relation to today's environmental issues, with further complications coming from the trans-national nature of the agreements required to establish appropriate rights and responsibilities. There is therefore a strong case for the development of public regulatory policies to assist, ease and accelerate the transitions to environmental markets.

Unfortunately, there is still no environmental regulatory agency in sight which is possessed of duties and powers to help facilitate and accelerate the creation of those environmental markets that can be viewed as natural, evolutionary developments in circumstances where by-products of economic activity that were previously thought to have little impact on human welfare (such as carbon), and therefore not worth trading, are now thought to create significant risks of harm, and are therefore now considered worth trading. It is not a market failure that markets don't exist where scarcities don't exist, and that they (markets) only come into being when they can contribute something positive to economic welfare. It is, however, most certainly a regulatory failure to adopt policies that impede the development of environmental markets in circumstances that warrant the establishment of market trading.

⁹ The 'problems' in the cases cited here were, of course, largely created by political ideology, not by any 'tragedy of the commons'.

Lacking an independent, more de-politicised¹⁰ climate change regulator capable of implementing coherent and stable long-term policies, UK environmental policy suffers from the *ad hocery*, volatility and incoherence typical of politicised decision making. The effects of this have been particularly severe in the electricity sector, which has borne the brunt of the policy weaknesses: the *poster child of world liberalisation* is now closer to being a basket case, with potential security of supply problems being created by the ‘fixes’ to market arrangements made in the name of ill thought through policies. Liberalisation plus political fixes was a major characteristic of the Californian electricity reforms, and the economic history of that system shows what a dangerous combination it can be. Competitive markets and central direction are two different systems for allocating resources – outcomes are determined by completely different processes – and this is a case where it is unwise to seek, simultaneously, to serve two masters.

Monopoly and the discovery/innovation problem

The under-developed state of competitive environmental markets, and heavy reliance to date on centralist environmental policies, indicates that we can expect there to be a lack of incentives for discovery and innovation. One of the initial duties of an independent climate change regulator could therefore be to seek to facilitate discovery and innovation, not only in the longer term by facilitating the development of new markets, but also perhaps on a more transitional basis (and the transition may be a relatively protracted one) by more targeted measures.

This brings us back to network regulation, since the absence of competition here also implies likely deficiencies in incentives for dynamic efficiency. This is an issue that has been considered by Ofgem in the RPI-X@20 project, not least because, to the extent that the initial Beesley-Littlechild thinking was focused on dynamics, it was the on the ‘one-off’ dynamics of a transition from potentially highly inefficient state-owned enterprises to somewhere closer to an uncertain efficiency frontier. Once closer to the frontier, however, policy questions tend to change focus, toward considerations of how to shift the frontier itself; and it is important to recognise that this means considerations of product and service innovations, as well as simply seeking to produce the same old things at lower resource costs.

This territory is necessarily difficult: discovery and innovation are the areas where the performances of competitive markets and protected monopolies (including governmental monopoly) can be expected to show the greatest divergence. Regulation might perform not

¹⁰ De-politicisation is necessarily a relative notion: there will be parts of environmental policy that it will be difficult to devolve to an independent regulator in the near future. However, there are also parts that could be delegated without too much fuss; and, once an agency is established, politicians may find it convenient to devolve an increasing share of the relevant regulatory decisions to it: sometimes fewer votes will be lost from a tricky decision if it is made by a regulator, rather than by a minister.

too badly in static conditions, but its weaknesses are more exposed when dealing with innovation.

Since an effective response to climate change risks is likely to rest very heavily on innovation, including innovation in utility networks, current regulatory approaches are not well adapted to the relevant challenges. I agree with Mark Jamison, therefore, insofar as his message, based on US experience, calls for more 'adaptive regulation'. However, my own view is that the most important adaptation is required at the level above the regulatory agencies themselves (not least because sectoral regulators cannot be expected to do it well). That is, the current institutional design would benefit from substantial adjustments. The minimum, and much the most important change required, is the de-politicisation (so far as that is possible) of aspects of climate change policy via devolution of duties and powers to an independent regulatory agency.

In relation to discovery and innovation, I have long been an advocate of the development of prizes for innovation, which would shift evaluation away from picking winners *ex ante* to rewarding winners *ex post*, much in the way that the patent system does. Winners are much easier to identify after the races than before! At the RPI, and hopefully in the future in collaboration with Policy Exchange, we have started work on developing a practical design or 'rule-book' for such an approach, on a scale that is proportionate to the climate challenges that we face (and I invite others to join us in the endeavour). This looks like an idea whose time has come: work is in progress around the world on prize systems, although, unsurprisingly, there is a concentration in the US, and the typical scope of the work is still much too narrow.

Ofgem's RPI-X@20 project has also taken up the idea in the context of regulating energy networks; although where, as has increasingly been the case, the 'demand' for innovation is driven chiefly by environmental factors, my own view is that the relevant responsibility should lie with a new climate change regulator, not with the energy regulator. The scale and scope of the challenges go far beyond utility networks, and a well designed policy will reflect that fact.

Where next?

My strong view is that the big regulatory issues are best addressed via organisational cultures that are deliberative/adjudicative in nature. In relation to economic issues, for example, courts generally make better assessments than administrative agencies, because (a) they are usually much more interested in discovering what is the case/truth, and (b) they make use of a sort of competitive process (there will be alternative cases/narratives put before the court). In contrast, the attentions of executive/administrative agencies are easily distracted by bureaucratic and short-term media/political issues, and one of their central

objectives (in practice possibly their central objective) is usually *to convey a good impression of themselves*, irrespective of that which is the case. (One of the lessons I have learnt from a lifetime of study in these areas is that it is difficult to overestimate the potential dysfunctionality of large bureaucracies which, for one reason or another, are in contact with the political system.)

Independent regulation was designed, among other things, to protect sensible public decision making from *unstable* political preferences, but more is required. The adjudicatory (quasi-judicial) and rule-making (legislative) aspects of regulation should be afforded better protection from the influence of less benign types of organisational culture. Similarly, I think the system as a whole works better when delegated objectives and devolved powers are focused and limited. For these reasons, I favour an institutional design for utilities based on unbundled/separated/disentangled environmental regulation, consumer protection, network regulation, and competition law enforcement.

For similar reasons, I would also argue against some current suggestions that all mergers policy enforcement work be brought together under the auspices of the OFT. The current role of the Competition Commission seems to me to offer better guarantees of continuation of an appropriate, quasi-judicial approach. However, the adverse effects of entanglement in utility regulation are far greater than in competition law, because of the magnitudes environmental policy failures discussed above and of their effects.

The most important aspect of such unbundling/separation, then, is the de-politicisation of large parts of climate change policy. For so long as climate change policy is highly politicised, there will be politicisation of sectoral regulation, most particularly in (but not restricted to) energy and water, and independence in sectoral regulation will be subject to insidious, even if unintentional, erosion. On the other hand, if the institutional deficit in environmental policy is tackled, other reforms will become much easier to achieve and will likely be more effective.

Unbundling is very much a Michael Beesley issue – I always think of him as the ‘great unbundler’ – but small platoons and separation of powers also has a distinctly eighteenth century flavour to it. That is not an accident: for sustained, coherent thinking about the design of an effective system of political economy, the Scottish Enlightenment authors, assisted by like minded writers in the rest of the Kingdom and its colonies at that time, have yet to be bettered! Today’s contexts may be different from theirs, but the principles of political economy are largely unchanged.