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**COMPARING REGULATORY
SYSTEMS: INSTITUTIONS,
PROCESSES AND LEGAL FORMS IN
INDUSTRIALISED COUNTRIES**

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COMPARING REGULATORY SYSTEMS: INSTITUTIONS, PROCESSES AND LEGAL FORMS IN INDUSTRIALISED COUNTRIES

Abstract

The aim of this paper is identify and compare the key features of regulatory systems in industrialised countries. By way of essential background, the first section deals with the constitutional and cultural environment which underpins the systems, but it also includes a discussion of regulatory traditions and styles which, for example as between anglophone and continental European regimes are significantly different. Institutional frameworks are discussed in the second section, covering, inter alia, the relationship between regulatory agencies and government, the breadth of remit of regulatory institutions and the degree of discretion conferred on them by legislation. The latter necessarily gives rise to issues concerning the forms of and institutions of accountability. In the third section, we consider regulatory procedures and management. Noteworthy here are, on the one hand, the systems of consultation and the extent to which public hearings are encouraged and, on the other, cost-benefit or regulatory impact analysis to which, in some jurisdictions, are mandatory for regulatory policy-makers. The final section is concerned with legal instruments and here we concentrate on the growing distance between traditional “command and control” methods and those relying on financial incentives and other economic instruments. Appended to the paper are two case studies which attempt to show how these features are deployed by different jurisdictions in two areas of concrete policy-making: taxicabs and water quality.

INTRODUCTION

There are clearly many possible approaches to the comparison of regulatory systems (Doern, 1998; Doern 1999). In this report, I explore the legal and institutional frameworks which have been used in industrialised countries. In the main text I focus on three characteristics:

- institutional structures (section 3), for example whether the regulator is a branch of government or an agency, to a greater or lesser extent independent of government, and the principles of accountability;
- procedural and managerial systems (section 4), for example any requirements of transparency of decision-making and internal systems of considering costs and benefits;
- legal forms (section 5), the instruments which are used to pursue regulatory goals.

The themes of my analysis, particularly those relating to the third characteristic, are illustrated by two short case studies on, respectively, water quality and taxicabs.

There is a generally accepted distinction (Ogus, 1994, 4-5) between:

- 'economic' regulation, the regulation of prices and quality of services supplied in a market characterised by monopoly conditions

and

- 'social' regulation, those areas of state intervention, for example, environmental and health and safety regulation and consumer protection, generally justified by reference to externalities and information asymmetries.

The determinants of the institutional framework are not always common to the two types of regulation. In this study, I cover both types, although in the main text there is a focus on economic regulation, while the case studies concentrate on issues of social regulation.

Comparisons between national systems risk superficiality if no account is taken of the cultural and constitutional context in which the regime is to be found (Daintith, 1987). We may find a strong resemblance between the regimes in two different jurisdictions: for example, similar conditions may be stipulated for the grant of a licence; and similar processes may be laid down. But the *functioning* of the regulatory system may be strikingly different if, for example, State A has a panoply of process values incorporated into its general administrative law and enforced by an independent judiciary, whereas in State B the matter is simply one of bureaucratic *diktat*. So also the concrete decisions made may depend not only on the merits of applicants and the use of highly detailed legislative or administrative criteria, but also on the constitutional basis of the system. State A may enshrine a general principle of freedom of economic activity in relation to which the requirement for licensing constitutes a necessarily limited exception; State B may, in contrast, regard the system as simply an instrument facilitating government control of the economy.

Indeed, above and beyond substantive constitutional norms may be other significant aspects to be considered under what may be loosely called 'cultural' variables. Historically, different bureaucratic and regulatory traditions have emerged in different countries relating to the style of rule-making and enforcement. Such traditions may stem from the cultures associated with different legal families (for example, common law; civil law; Scandinavian; Latin American ...) or operate quite independently of the latter. The report begins, therefore, with an attempt to identify how regulation fits into the constitutional and cultural environment.

CONSTITUTIONAL AND CULTURAL ENVIRONMENT

Constitutional framework

Regulation, in our conception, involves individuals and firms being induced to outcomes which, in the absence of the instrument, they would not have attained. It therefore necessarily involves the exercise of power by the state or an agency of the state. Constitutions control power and allocate it between different organs of the state (Sajó, 1999), more specifically between legislature, executive and judiciary. Under most modern Western constitutions, the power to regulate is acquired, if only implicitly, by the legislature.

If our interpretation of regulation as importing collectivist goals is accepted, conferring sovereign power on the legislature to regulate might seem, in the light of democratic principles, to be obvious. However democratic ideals must, to some extent, cede before other values and in consequence constitutional arrangements governing regulation are more complex (Daintith, 1997, 77-81).

First, and most obviously, in practice much regulatory power is delegated by legislatures to the executive; while primary legislation may lay down objectives and general principles, subordinate legislation or other administrative instruments provide the detailed rules. The costs of legislators being sufficiently informed to make good decisions and of the necessarily frequent technical amendments make this inevitable.

Secondly, in some countries, notably France (Bell, 1992), the power of the executive to regulate at least in some sectors is derived directly from the Constitution. This may reflect a political or ideological choice in favour of limiting democratic influences on decisions in such areas, a tradition persisting from monarchist concepts of the state (Pietre, 1947).

A third exception, sometimes overlooked by political scientists and economists, is the residual power of the judiciary to regulate. In many jurisdictions, the courts refuse to enforce contractual obligations which are contrary to the *ordre public*, a concept sufficiently broad to encompass a large number of social and economic values (Lloyd, 1953). In the common law world, judges have developed principles not only to constrain monopolistic behaviour (Trebilcock, 1986), but also, under the doctrine of 'common callings' (Taggart, 1995, 216-227), where such conditions are justified or inevitable – as in natural monopolies – to guarantee services and to regulate prices. And, in New Zealand, attempts have been made to

invoke the principles to post-privatisation utility arrangements (Taggart, 1995). In the absence of a bureaucracy, the approach may be justified but it is problematic insofar as it requires a legal claim for it to be activated and (in modern times) makes great demands on the technical expertise of judges.

A fourth qualification arises from the possibility of an allocation of legislative competence between national and provincial legislatures under a federal system of government (Prince, 1999). Inspired by notions of political decentralisation, these constitutional arrangements raise difficult questions whether they inhibit trade across the federation and/or encourage 'regulatory competition' between regions, with beneficial or adverse economic consequences (Inman and Rubinfeld, 2000). And the same issues arise in a transnational context, such as the European Union (Esty and Geradin, 2001).

Note too that in some countries the constitution itself may exert constraints on the power of the legislature to regulate; and this in turn will depend on the set of politico-economic values to which that document gives expression (Ogus, 1990). Thus we may have, as in the United States, a constitution which is interpreted as being based on a premise of freedom of economic activity. Then regulation has to find its constitutional legitimacy in the (admittedly broad) range of 'police powers' (e.g. protection of the health, safety and welfare of the community) the exercise of which can interfere with that freedom. This approach may be contrasted with another tradition which defines the role of the state as in some way directed towards social welfare ends which may diverge from unregulated market outcomes. Thus the German Basic Law of 1949 has, at its base, the concept of *soziale Marktwirtschaft* (social market economy) impliedly legitimising more active regulatory interventions (Reich, 1977, 82-86). But the language used to define such powers tends to be very vague, making constitutional challenges easy to resist. For example, Article 41 of the Italian Constitution provides that 'the law will set up appropriate schemes and controls in order that public and private economic activities may be directed and coordinated for the benefit of society'. This in turn should be distinguished from a third type of constitutional framework which assumes a planned economy and gives the legislature or government all the powers necessary to control it (see e.g. Laptev, 1978)

Administrative Law

Administrative law deals with the decisions and activities of public institutions and, in particular, specifies the means of challenging their validity and providing remedies for grievances. It plays a number of vital roles in relation to regulatory systems, ensuring that regulatory institutions use proper procedures and act not only within their legislative mandate, but also fairly and reasonably within the light of those objectives (Baldwin and McCrudden, 1987, chap.3).

There are major differences between countries regarding the character and effectiveness of administrative law and an obvious variable is the strength and independence of the judiciary who are primarily responsible for making and enforcing decisions against public institutions. In this connection, it would be wrong to assume that the power of judges to control administrative activity is a reflection of the state of the jurisdiction's economic development and therefore to be found predominantly in Western industrialised countries. It has been persuasively argued that the world's most active judiciary (in this sense) are to be found in India (Baar, 1997).

In any event, there are important differences between administrative law systems in countries which show equal respect for the separation of powers and ensure the independence of judges (Tate and Vallinder, 1995). There is, on the one hand, the continental European, civil law jurisdictions, which have a system of public law tribunals, separate from the main judicial system; and, on the other, the common law jurisdictions where administrative action is largely controlled by the ordinary courts, the state being regarded as simply *primus inter pares*.

And even within these two systems there are important variations. So, for example, the question whether a court has the power to annul legislation on the ground that it is inconsistent with the constitution is not one which receives the same answer within each tradition (McWhinney, 1986). The German *Verfassungsgericht* has the power; but that of the French *Conseil Constitutionnel*, which in any event is not a court, is more limited. The United States Supreme Court has the power; the British House of Lords has not.

Other differences may be questions of emphasis and therefore more difficult to categorise. German administrative law centres on the notion of the *Rechtsstaat*, the main principle being

that all instances of public administrative activity must be legitimised by formal legal norms (Faber, 1992, 28-30). While this idea would not be treated as wholly alien to the French *droit administratif*, that system takes as its focal point the ‘public interest’. This not only enables constitutional texts to be interpreted in such a way as to justify appropriate administrative action; it also protects private citizens, in the sense of requiring public authorities imposing losses on individuals in the furtherance of the public interest, to provide compensation (Brown and Bell, 1998, 175-176).

Then as between two of the leading common law jurisdictions, the USA and the UK, administrative law has clearly diverged (Schwartz and Wade, 1972). American judges take a harder look at the reasonableness of administrative actions (so-called ‘substantive judicial review’) whereas their English counterparts have rather concentrated on whether appropriate procedures have been observed. American administrative law has also gone further in terms of process values, requiring a greater degree of transparency of decision-making and encouraging participation by interested third parties¹.

Regulatory Traditions and Styles

Characterising and placing what we have come to call ‘regulation’ within legal systems are highly problematic tasks, as an impressionistic comparison of how law librarians classify books bearing that title would at once reveal. The question is not unconnected with the politico-economic basis of the law. Thus we find that civil law systems which have rationalised the concept of the state, and particularly its role in the economy, have developed formal legal categories for this purpose, for example, the French *droit public économique* (Delvolvé, 1998) and the German *Wirtschaftsverwaltungsrecht* (Jarass, 1984). These terms have been used to bring under a single umbrella the law relating to public enterprise, public finance, state controls of private enterprise and competition law – and therefore without difficulty have incorporated the regulation of privatised entities. In contrast, in Anglophone jurisdictions with their common law emphasis on the control of government power, equivalent classifications do not exist. Of course, the same areas of law can be identified, but there has been nothing in legal doctrine to link them. Rather they have been seen as disparate aspects of administrative law, the main concern of which was to control executive discretion, rather than facilitate outcomes considered as economically desirable (see e.g. Allen, 1927). Interesting, but not entirely successful attempts were made by German emigrants to impose

continental patterns on the American (Freund, 1931 and 1932) and British systems (Goldschmidt, 1937).

Paradoxically, the concepts of ‘regulation’ and ‘regulatory law’ which became so dominant in the 1980s and afterwards were predominantly Anglo-American in origin. They had as their base the economic notion of public law responses to instances of market failure and, as such, were rationalised by legal scholars from a law-and-economics background (Breyer, 1982; Ogus, 1994). Undoubtedly this literature had an impact on administrative lawyers who began to forsake their traditional preoccupation with discretion and judicial review to join ‘the economists’ pilgrimage to the new Jerusalem, which beckons with responsive regulation, regulatory negotiation and regulation by performance outcome and through economic incentives’ (Aronson, 1997). While public lawyers from the common law world were thus acquiring a vision which was closer to that of continental exponents of ‘economic law’, the latter were adjusting to the somewhat narrower notion of ‘regulation’ which became in French *réglementation* (Lévêque, 1998) and in German *Regulierung* (Reich, 1984).

Notwithstanding this convergence of the conception and rationalisation of regulation between the two principal legal cultures, the practical application retained important differences. Most of these will emerge later in the report, but already here we can mention some examples which result from the historical traditions.

- The focus on the ‘state’ and the greater degree of state intervention in the continental tradition, leads to a culture of ‘public interest’ regulation which is somewhat broader than the Anglo-Saxon emphasis on ‘market-failure’ regulation (Dyson, 1992).
- The style of the legislation used for regulatory purposes in common law systems tends to aim at a high level of precision, thus generating lengthy and very complex provisions; the continental approach adopts more general and abstract language, leaving more room for discretionary interpretation (Dale, 1988). Historically this can be explained as a consequence of the ideology that regulation was an incursion on the general principles of the common law and, thus, to be protected against judicial conservatism, required to be formulated in very specific terms. (Ogus, 1980)
- Given their long tradition of state intervention and centralised bureaucracy, continental European systems have been less comfortable than common law

jurisdictions with regulatory agencies which are, at least to some degree, independent of government (Majone, 1996, 10-12).

- While continental regulatory authorities are given powers themselves to impose sanctions for non-compliance, the British regulatory systems predominantly use the criminal justice process to enforce regulation (European Commission, 1994). The latter appears to be a consequence of the fact that, before modern bureaucracies, regulation was enforced by justices of the peace, the local arm of the criminal law (Ogus, 1992).
- In common law systems, again because historically intervention was regarded as exceptional rather than routine, regulatory techniques and principles have tended to emerge piecemeal, with little attempt at coherence across different sectors. In some European continental jurisdictions, particularly Germany, attempts have been made to develop general principles of regulatory administrative justice (Boujong, 1989)

INSTITUTIONAL FRAMEWORKS

In this section we consider a number of issues concerning the institutional structure of regulatory regimes. In relation to each, we shall examine current arrangements in the light of theoretical arguments.

Regulatory Agencies and Government

Regulatory systems must, of course, be enforced and therefore require some agency for this purpose. More than this, as we have seen, legislatures invariably delegate the task of detailed rule-making and this is often undertaken by the institutions responsible for enforcement. The first important issue which has to be addressed is the extent to which such institutions should be independent of government. There is here a spectrum of alternative arrangements ranging from complete government control to self-regulation. Although there are many possible variations, we can identify four main types.

- (I) An agency which is part of (central or local) government. External expert opinion may be consulted but the rules and decisions are made within the permanent bureaucracy, in relation to which a politician (the relevant minister) takes ultimate responsibility.

- (II) An agency which is semi-autonomous in the sense that while it is independent of, and not accountable to, government, the latter exerts some residual control through one or more of the following:
 - ~ appointment of members;
 - ~ some government representation;
 - ~ an expectation, or requirement, that rules and decisions will be made in accordance with government policy or guidelines;
 - ~ some form of ratification of decisions by ministers.

- (III) An agency which is independent of government in the sense that few, if any, of the above controls exist. It is a public institution, acting under powers conferred, and in accordance with principles enacted, by the legislature. Its members are experts drawn from non-government sources and without political affiliations.

- (IV) An agency which is predominantly self-regulatory as well as independent of government, in the sense that a significant proportion of the members are drawn from and directly represent the regulated sector. Some degree of public control may nevertheless be exercised through one or more of the following:
 - ~ some members represent the public interest;
 - ~ the principles and/or procedures to be followed are determined by the legislature;
 - ~ rules and decisions can be challenged by reference to the courts or some superior public agency.

At the risk of over-simplification, a survey of practice, both historical and inter-jurisdictional, can lead us to some interesting generalisations. In the first place, in the last three decades or so, there has been a global tendency to shift along the spectrum away from central government control: this has been a central feature of what has been called the ‘deregulation’ movement (Ogus, 2000a). Nevertheless, secondly, the extent to which that phenomenon has occurred has varied between different countries and in accordance with different regulatory cultures. Agency of type (III) is the classic form of American regulatory commission, developed at the end of the 19th century to govern utilities. Public ownership had been expressly rejected as a mode of governance and so the notion of a body of independent experts was wholly consistent (Landis, 1938). In contrast, Japan (Vogel, 1996) and the

European nations had typically adopted public ownership in this area, and when utilities were privatised new forms of regulatory agency emerged (see e.g. Demarginy, 1996) but (except in Germany which had been influenced by the American model in its post Second World War reconstruction: Woolcock, 308) it was harder to sever the ties with governmental authority² (Majone, 1996, 14-15).

So, for example, in Spain the central government exercises direct control over the electricity industry and its prices. In Germany, the Federal government establishes the general structure of tariffs for electricity, while the Länder governments control prices to consumers³. In France, such decisions are proposed by the Regulatory Commission, but taken by the Minister⁴. In Ireland the Minister can give directions to the Commission for Electricity Regulation for the performance of its functions⁵. In the UK, the Minister has residual powers to revise any modifications by the Office of Gas and Electricity Markets of any conditions in a supplier's licence⁶.

A third generalisation, and this applies to the USA as well as to Europe, is that agencies dealing with powers of social regulation, for example consumer protection environmental protection, have more government involvement than those governing economic regulation, and indeed in many countries remain as type (I). Nevertheless, this should not be taken as necessarily implying exclusively centralist decision-making. In the important area of employment and particularly health and safety at work, a tradition has long been established of tripartite (state, employer representatives and employee representatives) governance structure (Baldwin and Daintith, 1992). And in other areas, there is an increasing tendency for the details of regulatory policy to be worked out with the regulated industries on a consensual basis (Ogus, 2000a).

This last arrangement clearly involves some degree of self-regulation which, in any event, can assume a large variety of forms (Page, 1986, 144-148). However, in its most blatant form, type (IV), self-regulation is used in most jurisdictions mainly in the area of professional regulation (Faure et al, 1993).

What then are the theoretical arguments regarding these issues? They mainly relate to the costs of the information necessary for good decision-making and the ability to ensure that the agency's performance is consistent with the regulatory public interest goals, in other words the principal-agent problem (Macey, 1992). We can begin by recognising the advantages of delegating regulatory rule-making and enforcement to an agency which is largely independent of government (Mashaw, 1985). Expertise can be concentrated in ways not

always possible within a permanent bureaucracy and distance from government can reduce the degree of political interference – the history of public ownership has revealed too often that politicians are tempted to aim at short-term benefits, leading to, among other problems, uncertainty and instability (Zeckhauser and Horn, 1989). Nevertheless a role for government may be justified if aspects of regulation require essentially political judgements. This helps to explain the preference for type (I) in relation to social regulation and for type (II) as regards utilities regulation: while the primary questions of efficient price tariffs are for the independent agency, any social dimension, for example subsidiation and distributional preferences for certain customers, may more appropriately be determined by governments which are democratically accountable (Baldwin and Cave, 1999, 289-291). Some residual government control or influence can also be justified on the basis that policy can thereby be co-ordinated with other relevant agencies and sectors.

One reason for the observed world-wide trend towards consensual, decentralised regulatory rule-making, is the growing recognition that governments cannot always be relied on to possess or properly to process the information necessary to meet the regulatory goals at low cost (Gunningham et al, 1998, 44). We can clearly see the advantage, for example, of large firms formulating their own rule-book which is then submitted to the regulatory agency to ensure compatibility with those goals (Ayres and Braithwaite, 1992). By themselves, however, these arguments do not justify adoption of the complete self-regulation model, type (IV), because here unconstrained agencies can exploit their regulatory power to advance private, rather than public, interests, in particular by creating barriers to entry (Faure et al, 1993). Such tendencies may nevertheless be checked if the self-regulatory agencies do not have monopoly regulatory power but rather have to compete with other self-regulatory agencies (Ogus, 1995).

Scope and Super-Agencies

As one might expect, practice varies regarding the categorisation of regulatory agencies and the scope of their remit.

So, for example, in the USA, the state of Wisconsin has a Public Services Commission responsible for telecommunications as well as electricity, gas and water. The Scandinavian countries have a single agency which deals with all aspects of energy, including the regulation of prices where monopolies persist. Italy and the UK (since 2000) have a combined regulator of electricity and gas (but not water). France, Germany, the Netherlands and Portugal have separate authorities for electricity, gas and water.

There are clear advantages in the broader remit if that leads to greater consistency in policy-making, particularly where, as with gas and electricity, there is interaction between the two markets, and to a uniform approach to such technical matters as the method of estimating capital investment costs for the purposes of price controls (Baldwin and Cave, 1999, 296-298). But it may be the case that some form of competition between regulatory agencies serves to sharpen their responses and thus enhances accountability (Macey, 1992, 104-107)⁷.

Liberalisation of markets traditionally associated with natural monopolies has also given rise to another dilemma of institutional policy. In some areas, notably telecommunications but also the supply of gas and electricity, regulation in the form of price controls has been regarded as a temporary phenomenon pending the arrival of sufficient competition.

Legislation then typically requires of regulatory agencies both to promote competition and, if the market is insufficiently competitive, to control prices. The dilemma arises because typically, within the jurisdiction, there are other regulatory institutions formulating and enforcing competition law generally. Two linked questions arise: should the competition aspects of utility regulation be integrated into the broader powers and responsibilities of the competition authority and removed from the sectoral utility regulator? And, when competition is deemed to be sufficient to remove the price controls, should that regulator be disbanded?

Across the jurisdictions, we can observe a variety of responses to these questions. To some extent these may depend on the extent to which competition without price regulation has been, or is likely to be, achieved. So, for example, there is greater deference to the role of the competition authorities in the telecommunications sector where competition is more advanced; in the European context, the EU Commission's Directorate-General for Competition plays a most significant role (Coates, 1999). But even here there is tension created by concurrent and overlapping powers of national regulatory authorities and national competition authorities (Larouche, 2000). An even greater diversity exists in the energy sector. At one end of the spectrum is New Zealand where no sectoral regulatory institutions have been retained and there are no explicit legislative powers to control prices (Taggart, 1995). Then there is Denmark, where such powers do exist but they are exercised by the Competition Authority, which has established price committees for this purpose⁸. But most jurisdictions seem to favour a dualist model in which there is a sectoral regulator applying competition law, but in the expectation that this will be informed by, or at least consistent

with, the principles emanating from the competition authorities (Grenfell, 1999). Perhaps the most interesting example of such a model is to be found in Canada where the law provides devices for enhancing the relationship between competition and sector regulators (Doern, 1998b, 268-272; Janisch, 1999).

Notably: (1) the empowering of competition regulator to appear before sectoral regulators to advocate or raise concerns about competition⁹; (2) the availability of a 'regulated conduct' defence to a firm facing allegations of uncompetitive practices by the competition regulator¹⁰; (3) the doctrine of 'regulatory forbearance' entitling a sectoral regulator not to regulate where effective competition exists¹¹.

The arguments for and against merger of the sector regulator and the competition authorities seem to be well balanced (Prosser, 1997, 272-277). On the one hand, there is a clear advantage in having a single agency deal with competition issues in whatever context they may arise and tensions can obviously arise if the sector regulator postulates principles and policy which are not consistent with those being applied more generally. On the other hand, a more general agency may have insufficient experience of, and be insufficiently sensitive to, the specific features of the utility industries, for example their social or service obligations, particularly where the balance between regulation and competition has not yet tipped decisively in the direction of the latter. It may also be that a sector regulator can more effectively fulfil the role of *promoting* competition, a function which is very different from that of *policing* competition, typically undertaken by competition authorities.

Another institutional question much mooted in recent years is whether there should exist some 'super' authority which takes some residual responsibility for a variety of regulatory regimes. (Baldwin and Cave, 1999, 296-298). Understandably such institutions may exist in federal jurisdictions where the sector regulators operate at a provincial or regional level and questions arise as to interstate provision (see, for example, the Australian Independent Competition and Regulatory Commission and the Canadian National Energy Board); but as such they do not normally play an overseeing role and hence the sector regulators are in no way accountable to them. Another model is provided by the Administrative Conference of the United States which, from 1968 to 1995, monitored regulatory agency procedures and rulemaking practice, and issued recommendation for improvements¹². Building on this, one might envisage a two-tiered structure in which a general, overseeing body of experts reviews the powers and procedures of sector regulators and assists in resolving disputes between them and the regulated industries.

Discretion and Accountability

We turn next to the power conferred on regulatory agencies, the nature of the discretion involved and the methods used to render them accountable. In theoretical terms, we are back with the principal-agent problem. To enable the agent, here the regulator, to apply the expertise which he or she is assumed to possess, a broad discretion must usually be conferred. So, for example, the British Gas and Electricity Markets Authority's principal objective is:

‘to protect the interests of consumers in relation to electricity conveyed by distribution systems, wherever appropriate by promoting effective competition between persons engaged in, or in commercial activities connected with, the generation, transmission, distribution or supply of electricity’

and it should carry out its functions

‘in the manner which ... it consider is best calculated-

- (a) to promote efficiency and economy ...
- (b) to protect the public from dangers ...
- (c) to secure a diverse and viable long-term energy supply’¹³.

However, the extent to which legislation further directs, by specific rules or guidelines, how the discretion is to be exercised varies significantly between jurisdictions. To illustrate this, we can examine the provisions governing the control of electricity prices. Now, we know that, to achieve efficient pricing in monopoly conditions, regulators have tended to adopt either the long-standing American method of cost recovery based on a ‘fair rate of return’ or a price-capping technique, tied to inflation but incorporating productivity expectations, such as that devised by the Thatcher government for the privatised utilities in the 1980s (Ogus, 1994, 305-313). But there is considerable diversity as to whether the legislation prescribes an appropriate method and, if so, with what degree of detail.

One finds that common law jurisdictions tend to use general language and thereby confer a very broad discretion on regulatory agencies.

Typical state legislation in the USA simply requires that the regulator should ensure that the rates charged ‘shall not exceed the actual cost of such ... services including a fair rate of return’¹⁴. The UK regulators have mainly used variants of the famous *RPI-X* price-capping formula (Rees and Vickers, 1995). However the formula is contained in no legislative instrument but only in the licences granted to individual suppliers, the terms of which may be amended by the regulator in accordance with the general principles governing the ‘efficiency’ of supply and quoted above (Grenfell, 1999, 224). A similar approach is taken in Ireland.

The legislation of some continental European jurisdictions has been more specific.

Thus in France, which broadly speaking adopts the US method, the permissible tariff of electricity prices is explicitly related to the recovery of costs in relation to which research and development costs are treated as particularly important¹⁵. Even more striking is the Italian law no 481 of 14 November 1995 which specifically incorporates a price-cap formula, almost identical to that used, but not legislatively prescribed, in the UK: the annual tariff growth is not to exceed the difference between the target inflation rate and the increased productivity attainable by the supplier (Avanzini, 2000, 353).

The contrast may seem to be paradoxical in the light of what was said earlier about legislative styles but it rather reflects differences of approach within administrative law, which themselves can be explained by reference to principal-agent theory. We may readily assume that everywhere the ‘principal’ is intended to be the public interest, justifying and therefore also constraining the regulatory system, but the extent to which the legislator is viewed as representing that interest is another matter.

The continental European tradition has always been to emphasise the link between legislatures and the public interest; particularising administrative functions within a strong, prescriptive statutory framework is therefore unsurprising. The American approach is somewhat sceptical of this link, recognising the key role that pressure groups and private interests play in the legislative process. Greater reliance is placed on ex-post methods of constraint through the general principles of administrative law. The expectation is that those enabled, by such principles, to participate in regulatory procedures or challenge regulatory decision-making in the courts will be more representative of the ‘public interest’ than the politicians (and bureaucrats) responsible for the legislation (Breyer and Stewart, 1985, 26-32). For a period of over one hundred years, clarification of how regulators should control utility prices consistent with the notion of ‘fair rate of return’ emerged not from a legislative or executive source but rather from judges and the huge case-law which emerged from judicial review of regulatory decision-making (Breyer, 1982, ch.2).

The British systems since the 1980s seem to be somewhat unhappily stranded between the European continental and the American traditions, having neither the prescriptive statutory framework of the former, nor the strong administrative law environment of the latter (Graham, 1998, 351).

The above discussion leads us into a more general consideration of accountability which can, of course, take a variety of forms, political and legal (Baldwin and Cave, 1999, ch.21; Prince, 1999). Inevitably, in jurisdictions where governments retain a major degree of control, independent agencies, if they exist, are accountable to them.

In South Africa, for example, the National Electricity regulator must: 'furnish the Minister with such information and particulars as he or she may from time to time require ...'; and submit an annual report, containing inter alia information 'regarding the envisaged strategies of the regulator'¹⁶.

More typically, political accountability takes the form of submitting reports to the legislature which may have a special committee to scrutinise and debate its contents. In this connection, one may note that the British practice, not much imitated in other countries, to designate the regulator as a single person, rather than a committee or a commission, may strengthen political accountability, as the individual concerned has in consequence a much higher profile (Doern, 1998, 40-41)¹⁷.

Legal accountability enables those aggrieved by a decision or an exercise of rule-making to issue a formal complaint or appeal. Where an agency's powers include that of issuing licences or conditions for individual firms, it may well have its own appeals panel for such purposes¹⁸. Of greater significance is the right to bring claims to another institution. Here one observes a divergence between countries which establish specialist commissions or tribunals, such as the British Competition Commission¹⁹, having powers to determine disputes only within the sector, or a related sector, and those which rely exclusively on institutions having competence over general administrative matters. Examples of the latter include not only the system of administrative tribunals in civil law jurisdictions, but also the ordinary courts in common law jurisdictions, with their powers of judicial review. The main advantage of a specialist institution is that it can bring to bear expertise on the relevant regulatory issues, particularly where, as in the cited example, it includes economists as well as lawyers and administrators. But as we have already seen, the general jurisdiction of the American courts has not prevented them from developing a sophisticated approach to regulatory concerns (Foster, 1992, 187-197); and in the civil law systems the high standing and profile of institutions such as the French *Conseil d'Etat* and the German *Bundesverwaltungsgericht* ensures effectiveness as well as legitimacy (Dyson, 1992a, 12-13).

PROCEDURES AND MANAGEMENT

The Background: the Legal Character of Regulatory Systems

The choice of appropriate procedures and management systems is much dependent on the style and culture of regulatory systems and so, to explain their incidence, we must return to some of the fundamental aspects discussed earlier in this chapter. One is the distinction

between social and economic regulation, the importance of which tends to be underestimated by economists and political scientists. Social regulation, such as that governing health and safety and environmental pollution, has a long history dating back to medieval times (Ogus, 1992) and is derived from the police powers of the state (Freund, 1932). As such, in its developed forms, it assumed the character of ‘command and control’, the machinery of government coercing desired behaviour from its citizens. Most of the procedures were therefore designed to ensure that the regulators did not exceed their legislative mandate, that the rules were reasonably required to meet the regulatory objectives and that the enforcement processes complied with the demands of natural justice and did not discriminate unfairly against firms or individuals – the ‘bread and butter’ of traditional administrative law (Baldwin and McCrudden, 1987, ch.3).

The origins of economic regulation are quite different. Although some form of inherent legal restraints on monopolies have existed in most jurisdictions, the control of prices and quality in natural monopolies has been a relatively recent phenomenon, simply because the most important instances of the latter have been associated with technological developments occurring after the industrial revolution. And the strategies of governments in dealing with the problem was at the outset, and at least in institutional terms, uncertain and incoherent (Arthurs, 1985). So in the 19th century, exploitative behaviour by private monopolists might be combated by ad hoc inquiries and adverse publicity, rather than by any systematic application of legal norms (Foster, 1992, 227-235), while the ever-expanding public ownership of natural monopolies became subject mainly to internal procedural directives which did not always facilitate accountability to outsiders (Lapsley and Kirkpatrick, 1997, ch. 3).

The American distaste for public ownership led to the retention of private utilities but with regulatory commissions controlling prices. These institutions acquired two related characteristics (MacAvoy, 1979, ch.2). Their principal function being to review price levels and structures proposed by the suppliers, they acted as adjudicators as much as rule-makers. Secondly, the facts that typically they were dealing with monopolists, with therefore a ‘one to one’ relationship, that some degree of cooperation from the regulated firms was necessary if they were to acquire the necessary information for good decision-making, and that some interchange of personnel was not unknown all led to a concept of ‘negotiated regulation’, very different from that normally associated with command-and-control (cf Peacock, 1984).

Not surprisingly, there were allegations and evidence of ‘regulatory capture’ (Bernstein, 1955); and efforts were made to contain the phenomenon by (as we shall see) stringent procedural requirements.

The wave of privatisation in other countries in the 1980s and 1990s and the need to create regulatory agencies raised the question as to the extent to which the American model would be followed. Alternative strategies were to harness the new agencies to existing traditions of administrative proceduralism and management, and to imitate the institutions already existing for social regulation. However, as we shall see below, the same period also witnessed major changes to the latter, there being a significant move away from command-and-control towards systems involving economic incentives and more freedom for firms in meeting regulatory objectives (Ogus, 2000a).

Procedures

We may focus on three main categories of procedural rules designed to encourage transparency and third-party involvement in regulatory decision-making (OECD, 1994, ch. 3): notification, the one-way communication between the regulator and the public; consultation, the collecting of information relevant to the decision; and participation, the use of public hearings to allow oral representations and discussion. As indicated above, American administrative law has taken a lead on all three aspects (Breyer and Stewart, 1985).

The obligation to notify the public of proposed regulatory policies and rules is routinely applied in all jurisdictions. A requirement to publish reasons for decisions or rules is less commonly encountered.

The failure of the UK legislation to impose such a duty on utility regulators has been much criticised (Baldwin and Cave, 1999, 315-316). In the USA, the threat of judicial review is sufficient to secure the practice²⁰. In France, there is an obligation on the *Commission de régulation de l'électricité* to *motiver* its recommendations regarding prices, but not on the government which makes the decision consequent on the recommendation²¹. The Italian regulator publishes its decisions in a fully reasoned form²².

Publishing reasons obviously encourages good decision-making, and as a measure to combat discrimination in favour of domestic firms, European Law imposes such an obligation on Member States in relation to the award of authorisations for the construction of electricity generators²³. Nevertheless if regulators will in practice give reasons for their decisions, it may be counter-productive to make this the subject of formal requirements, since it may render the process unduly legalistic, causing additional costs and delay, and ‘such procedures always

work to the advantage of the regulated; they provide another route to regulatory capture' (Foster, 1992, 274).

This need to achieve the right balance between over-legalism and informality applies also to the other procedural issues. In the case of utility regulation, formal provision is typically made for consultation with a body representing consumers (Locke, 1998) and reports from Japan and Portugal suggest that in those countries specialist advisory groups representing other constituencies play a key role in policy formulation (OECD, 1994, 28). But it is not clear that the lines of communication thus made necessarily open prove to be more effective than consultation which operates in a more ad hoc manner and which appear to be take place in most jurisdictions: 'consultation which focuses on only selected and well-organized interests may produce biased information which can skew regulatory decision-making' (OECD, 1994, 28). Of course, there is little that can be done to control the weight which regulators attribute to various third-party communications but procedural devices can at least be introduced to restrain attempts to influence decision-making by 'back-door lobbying': in the USA, this is done by requiring that all communications between third-parties and regulators concerning proposals are placed on the official record (Breyer and Stewart, 1985, 663-661).

Unsurprisingly, given its adversarial culture, American administrative law has gone furthest towards a model of regulatory process involving public hearings (Breyer and Stewart, 1985, 561-569). Italy seems to be moving in the same direction²⁴. But such an approach would seem to be less appropriate in systems in which governments play a role in decision-making. Also it is arguable that oral debate can detrimentally oversimplify the complexities of some regulatory issues, including the determination of utility prices (Baldwin and Cave, 1999, 318-319).

Managerial Systems

'Regulatory management' is a relative newcomer to the language of regulatory theory and policy. It has had its greatest impact in relation to social regulation as a reaction to the widespread perception in the 1970s and 1980s that many systems had to a greater or lesser extent failed to meet their targets (Sunstein, 1990, ch. 3). This was a consequence of the facts that rules had become too numerous and too complex, that they imposed unnecessary burdens, especially administrative burdens, on firms and that they were too inflexible relative

to changing technological and economic conditions (OECD, 1994, 17). The impact on regulatory policy has been significant (OECD, 1992). As we have already seen, there has been the deregulation movement involving more flexible regulatory instruments and a degree of self regulation, but equally important has been the introduction of practices and procedures aimed at the better management of regulatory systems (Hill, 1999).

Among these reforms, we should highlight measures designed to coax bureaucracies towards better regulation. In a number of jurisdictions, so-called 'regulatory checklists' have been introduced, requiring officials involved in regulatory policy and the drafting of regulatory rules to reveal their awareness of characteristics which are considered desirable (OECD, 1993)

Thus in Norway the checklist includes questions such as:

Is government action necessary?

If so, is it preferable at national or regional level?

Have different regulatory techniques been considered to determine which is the most appropriate?

Are the regulations drafted in language and style which can be readily understood?

Can they be effectively enforced? (Norway, 1994)

More ambitiously, in some countries, notably the USA, regulators must engage in some form of cost-benefit analysis of regulatory proposals, often known as regulatory impact analysis (Froud et al, 1998). This is somewhat controversial if it effectively requires officials to demonstrate that a measure is justified in cost-benefit terms, because the benefits of regulatory intervention are more difficult to quantify than the costs (McGarity, 1991). But typically the instrument is used more as an information device, enabling policy-makers to have a better understanding of the probable consequences of particular instruments.

In relation to areas such as environmental pollution and industrial health and safety, management systems of this kind have, it is claimed (e.g. Gunningham et al, 1998), promoted a better informed and a more sophisticated choice between regulatory instruments, and between regulatory and non-regulatory instruments. To what extent they have impacted on economic regulation is somewhat less clear. Of course, the latter embraces the quality as well as the price of monopolistic services and good management systems can assist in the devising of effective controls, such as performance indicators (Ogus, 1994, 286-287). But arguably they can also contribute meaningfully to what we have seen to be the crucial policy issues: the tension between price controls and competition policy; and, if the former, the choice of an appropriate method for determining efficient prices.

LEGAL INSTRUMENTS

Within the confines of this report, it is clearly impossible to provide a comprehensive survey of the huge variety of legal instruments which are used to accomplish regulatory goals (for partial surveys, see: Mitnick, 1980; Ogus, 1994; Gunningham et al, 1998). There are, indeed, many topics for comparison. Within economic regulation (Baldwin and Cave, 1999, chaps. 17-20), we could, for example, contrast as modes of dealing with monopoly price and quality problems:

- direct price and quality controls imposed by regulators;
- public franchises, in which firms compete with bids comprising price and quality specifications to acquire the monopoly right.

And within the first of these approaches, we could compare how, following privatisation, some jurisdictions have adopted:

- fair rate of return regulation, the traditional American form of price control
- while others have based interventions on
- price-capping, the method used by UK regulators to limit price increases.

And, as the case study on taxicabs reveals, price competition may be possible as an alternative.

Straddling economic and social regulation is, however, a more general theme concerning the style of the regulatory instrument: the extent to which the legal instrument should rely on coercion to achieve the desired outcome; and the extent to which it should rely on other types of incentive. In industrialised countries, there has been a significant trend away from the first, more traditional, method towards the second (OECD, 1994; Ogus, 2000a).

Command-and-control

Traditional coercive, or command-and-control regulation is widely used across the social and economic fields. It comprises several features:

- it relies heavily on the imposition, or threatened imposition, of a penal sanction to achieve compliance²⁵;
- the burden of enforcement is assumed by a public agency, often that which is also responsible for detailed rule-making;

- the rules are predominantly ‘activity-based’, that is they control directly what individuals or firms do, rather than the outcomes of those activities.

Regulation of this kind gives rise to a number of problems, particular in an era of rapidly developing technology (Sunstein, 1990, ch.3).

- activity-based intervention requires the agency to have adequate information resources both centrally, to formulate appropriate standards, and locally, to monitor their application;
- prescriptive regimes create little or no incentive for the regulated firms to develop cheaper means of meeting the regulatory goal;
- traditional ‘rule-books’ become very detailed and bulky;
- the more specific the prescription, the easier it is for regulatees to engage in behaviour which contradicts the spirit, but not the letter, of the law²⁶.

Innovations within command-and-control

By the end of the twentieth century, many jurisdictions had significantly reformed their traditional regulatory techniques (OECD, 1994). The major catalyst for change was perhaps the perception that, as a consequence of the regulatory overload described above, ‘traditional forms of command and control regulation ... have reached the limit of their effectiveness’ (Gunningham et al, 1998, 46-47). But there was also the influence of increased globalisation of markets, prescriptive and detailed national regulation often constituting barriers to trade (Esty and Geradin, 2001). There were several modes of reform (Ogus, 2000a, 89-93):

- controls shifted from activities to outcomes, thus enabling firms to devise their own methods of meeting regulatory goals;
- where prescriptive standards persist, they tend to operate as default rules, operative only if the firm fails to provide a reasonable alternative (Baldwin, 1995, 80-121)
- standards agencies, such as the British Standards Institute and its European equivalents, provide rules which firms can adopt on a voluntary basis (Spindler, 1998)
 - the process is fostered by the principle of mutual recognition which under European Union law is increasingly used to facilitate trans-boundary trade (Weatherill, 1997, chap.2)
- there have been efforts, at least in some areas, to decriminalise the process (Kerrigan et al 1993) and, at the same time, to broaden the range of sanctions to include, for example, the formalising of adverse publicity (Yeung, 2001)

- there has been a gradual broadening of powers of third parties to enforce regulatory law (Yeung, 1999)

Alternative strategies and instruments

There have been two main strategies or instruments developed as alternatives to command-and-control. The first comprises a number of variants on the idea of self-regulation; the second involves economic incentives rather than coercion.

In our classification of agencies we identified self-regulation as a phenomenon where rule-making and enforcement are carried out exclusively by representatives of the regulated sector. Understood in this sense, the use of self-regulation may well be declining. In industries where the regulated suppliers had traditionally wielded these powers, such as the professions and financial services, there has been much criticism of ineffectiveness, and the furtherance of private, rather than public interest (Horowitz, 1980); and the powers have increasingly been transferred to public agencies. But self-regulation should be given a broader meaning, encompassing a spectrum of arrangements in which the regulated sector plays a lesser or greater role in the regulatory functions (Ogus, 2000b).

From such a broader perspective, there has been a considerable development in self-regulation, based on the increasing realisation that those engaged in an activity are generally best informed as to what is the best and cheapest method of achieving a regulatory goal (Gunningham and Rees, 1997) What has thus emerged in the newer models of self-regulation is an attempt to devise institutional arrangements which retain the advantages of low cost rule formulation but involve some degree of public accountability. Some jurisdictions have adopted what has been referred to as 'co-regulation', in which self-regulatory agencies issue, and sometimes enforce, rules but with a degree of oversight from, or participation by, public agencies (Grabosky and Braithwaite, 1996). Of particular influence has been the model of 'enforced self-regulation' developed by Ayres and Braithwaite (1992). They envisage a public agency negotiating with individual firms regulations that are particularised to the latter's circumstances, with the threat of imposing less well tailored standards should the firm fail to cooperate. Another variant on the same theme is a regime in which the focus of the public control is on the structure and appropriateness of the internal management system adopted by firms to address the regulatory goals, rather than on the activity itself (Gunningham et al., 1998)

Regulation by ‘economic instruments’ has attracted considerable attention as an alternative to command-and-control (Howse, 1993; Baldwin, 1997). The basic idea is to replace coercion by a system which harnesses regulatory goals to market incentives. It includes such devices as fiscal impositions, subsidies, trade in regulatory controls (e.g. emissions trading) and conditions attached to public contracts. Advocates, mainly economists, claim that the instruments have several important advantages: they reduce information and administrative costs; their imposition is more certain; they are more adept at inducing marginal adjustments to behaviour and they create incentives for technological development (Mitchell, 1988). In fact, when account is taken of practical aspects, such as administrative costs, targeting and accountability, they are more problematic than the abstract models formulated by economists would tend to suggest (Ogus, 1998).

At the level of political rhetoric, economic instruments seem to attract much enthusiasm from governments. In 1997 an influential OECD report suggested that

“if governments are to maintain credibility and effectiveness, they must use their regulatory powers no more than the minimum necessary to protect important public interests; apply rules transparently; use market incentives, goal-based regulation, and other policy tools that work within competitive markets to advance social goals ...” (OECD, 1997, 7)

An earlier statement by the UK government, made in relation to environmental protection is even more striking:

‘In future there will be a general presumption in favour of economic instruments. The intention is that new regulations should be limited to cases where economic instruments to achieve the Government’s environmental objectives more effectively are either not available or require regulatory underpinning²⁷.

Notwithstanding statements such as these, the actual use of economic instruments has been relatively modest. The trading of emission limits to atmospheric pollution appears to have been successfully established in the USA²⁸ and Denmark²⁹ (Cole, 2000) Although important proposals have been made by the European Commission for such a system to apply across the European Union³⁰, they remain controversial; and the same applies to emissions trading at a global level, as in the context of the Kyoto Agreement (Wiener, 1999).

Financial charges have often been employed to induce behavioural change where legal compulsion is regarded as inappropriate. This may be because the relevant activity is considered as ‘immoral’ rather than harmful or if harmful, then only to the actor and therefore the intervention is on paternalist grounds. Taxes on alcohol, gambling and tobacco are the prime examples, but there is an ambiguity and tension between the regulatory and revenue-

raising functions: if the demand for the product or activity is highly inelastic, the imposition is a fruitful source of revenue, but relatively ineffective as a regulatory device (Ogus, 1999, 254-258).

Efforts to apply the tax idea to activities creating significant externalities, notably pollution, have been tentative. While in Denmark, France, Germany and the Netherlands the taxation of water pollution has existed for some time (Andersen, 1994), the instrument has complemented, rather than replaced, conventional command-and-control regulation. Charges to combat road congestion have been much discussed (Evans, 1992) and sometimes implemented but, as with economic instruments in other contexts, the main difficulty has been linking the financial imposition to an aspect of the activity which is both sensitive to the cost and capable of adjusting to desirable, as opposed to equally undesirable, alternatives (Smith, 1995).

CONCLUSION

This has not been an evaluative study, but rather a mapping exercise, attempting to identify the institutional structures of regulatory systems in different jurisdictions in terms of the choices available. Of course the discussion has necessarily been pitched at a high level of generality, but the case studies which follow illustrate how the critical issues have been determined within two particular sectors.

We have seen that ideas about regulation have been evolving across jurisdictional boundaries. To some extent this may have been the consequence of the interaction between national regulatory regimes occurring within increasingly globalised markets (Braithwaite and Drahos, 2000) – a dimension which has not been explored in this study. But while there may be some convergence of regulatory objectives and substantive principles, the character of national regulatory institutions is still best to be understood within each jurisdiction's culture. In the words of Sir Christopher Foster, 'while the underlying economic principles and therefore the regulatory offences should be relevant in all economies, how the offences should be expressed, monitored and controlled can only be decided in the context of the constitution, laws and political habits of the individual country' (Foster, 1992, 417).

Notes

- 1 It is nevertheless considered that within the last two decades British judges have become much more active in relation to judicial review: Richardson and Sunkin, 1996.
- 2 Government control can of course also be exercised by retaining shares in a privatised company. For general discussion of the various methods, see Graham and Prosser, 1991, ch.5.
- 3 Energiewirtschaftsgesetz 1998, § 11.
- 4 Loi n° 2000-108 du 10.02.00, Art.4, al.I. For general observations on the relationship between government and regulator, see Lévêque, 1998, 75-76.
- 5 Electricity Regulation Act 1999, s.10.
- 6 Electricity Act 1989, s.11A, inserted by Utilities Act 2000, s.35.
- 7 Though Macey also recognises that competition may induce the agencies to identify more with the industries they regulate.
- 8 See www.ks.dk/eng/regnskab/1999/report.html.
- 9 Competition Act 1986, ss.125-126.
- 10 *Attorney General of Canada v Law Society of British Columbia* [1982] 2 Supreme Court Reports 455.
- 11 *Alberta Government Telephones v. Canada* (1984) 15 D.L.R. (4th) 515.
- 12 For a list, see <http://www.law.fsu.edu/library/admin/acus/acustoc.html>.
- 13 Electricity Act 1989, s.3A (1) and (5), inserted by Utilities Act 2000, s.13.
- 14 Iowa ST s.476 1C.
- 15 Loi 2000-108 of 10 February 2000, art.4(II).
- 16 Electricity Act 41 of 1987, s.5D, inserted by Electricity Amendment Act 60 of 1995.
- 17 See also on this aspect of regulatory systems, Wilks, 1998, 139-140.
- 18 E.g. the Irish Electricity Regulation Act 1999, ss.29-30.
- 19 Competition Act 1998, s.45-49.
- 20 See, e.g., *Complex Consol. Edison Co. of New York v F.E.R.C.* 165 F 3d 992 (1999).
- 21 Loi of 2000, above, art.4(III).
- 22 For examples, see www.autorita.energia.it/docs
- 23 Directive 96/92/EC, art 5.
- 24 An inference drawn from the practices described in www.autorita.energia.it.
- 25 As we have seen above, in most systems (but not the UK) regulatory authorities may impose a serious financial sanction; but generally there is ultimate resort to a criminal process.
- 26 Regulation becomes 'becomes a race between the ingenuity of the regulatee and the loophole closing of the regulator, with a continuing expansion in the volume of regulations as the outcome': Schultze, 1977, 56-57.
- 27 This Common Inheritance. The Second Year Report Cm 2086 (1992), 3.46.
- 28 Environmental Protection Agency, Emissions Trading Policy Statement, 51 Fed .Reg. 43,814., (1986).
- 29 Environmental Protection Act 1991.
- 30 Green Paper on Greenhouse Gas Emissions Trading within the European Union COM (2000) 87.

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APPENDIX 1

COMPARING TAXI REGULATION REGIMES IN DEVELOPED ECONOMIES

INTRODUCTION

“The taxi trade should be a model of textbook economics. There are lots of sellers (drivers), lots of buyers (passengers) and low barriers to entry (the price of care). It isn’t. Throughout the world the trade is distorted - by government rules, monopoly, political lobbies, mafias, racial exclusiveness and every other sin in the free marketeer’s book”.(The Economist, 22 December 1990)

The above observation was written over a decade ago, but notwithstanding a fair amount of policy debate on appropriate regulatory regimes and some degree of deregulation, it might still be regarded as apposite. Taxi regulation indeed provides an excellent subject-matter for comparison between jurisdictions in developed economies, because there are significant variations between regimes. Allegations that many of these regimes are ill-targeted and/or excessive also enable us to investigate how well the institutional structures perform in meeting public interest objectives.

Regulation of private transport has existed since at least the 17th century and has responded to different concerns at different periods of its history. In England some operators were legally bound as “common carriers” to supply the service to all who requested it and, as compensation for this interference with their freedom, obtained some degree of monopoly power which necessitated control. In the cities of London and Westminster, coachmen were regulated to restrain congestion. The widespread introduction of taxicab licensing in many countries in the USA in the 1920s and 1930s is attributed to the competitive conditions caused by the Depression, cheap entry creating unstable market conditions (Gilbert and Samuels, 1982). Policy documents on more recent regimes (e.g. Trudel, 1985; Australian Trade Commission, 1999) tend to concentrate on consumer protection, the circumstances in which taxi services are typically offered generating information asymmetry between suppliers and purchasers.

There is therefore a broad range of public interest arguments which have been used to explain regulation in this area, but how well are they matched to the combination of entry controls, price and quality controls which have emerged in different jurisdictions? Private interest theorists focus instead on the rents which the suppliers of regulated trade often are able to acquire when competition is controlled (Kitch et al, 1971). In this paper, I compare regulatory regimes from both perspectives. Discussion is divided according to the different dimensions of regulation: quantity control; other entry controls (vehicles and drivers, respectively); safety and quality standards; service and systems requirements. And I conclude with reference to some institutional and procedural aspects.

Quantity Controls

Limiting the number of taxicabs permitted to ply for trade is the most direct form of entry control. It has been a feature of most regimes and still operates in many, including London and New York (Kang, 1998), but as a consequence of deregulatory measures in the 1980s and 1990s, quantity controls have disappeared in many jurisdictions and probably now exist only in a minority. Given the adverse effects generally attributed to quantitative controls, limiting the availability and variety of services to consumers, and enabling supra-competitive profits to be earned, strong public interest arguments are necessary to justify them. “Excessive

competition”, by itself, has little meaning (Breyer, 1982, 29-35) and if the concern is rather with possible deteriorations in the quality of the service, these can be addressed by means other than quantitative controls. The same applies to important externalities such as road congestion and pollution.

Where regulation has imposed quantitative limits, it has often conferred considerable discretion on the authority responsible for issuing licences.

Under the long-standing UK system, dating from 1847, the local authorities (outside London) could “from time to time license to ply for hire ... such number of ...coaches or carriages of any kind or description adapted to the carriage of persons as they think fit”.¹ In France, a similar system appears still to operate [check].²

And such power is obviously open to abuse, encouraging corruption or at least capture by rent-seeking individuals.

There are some quantitative measures which seem to proceed on the assumption that the supply of taxis in a free market will not match demand, although it is difficult to find support from economists for the proposition.

We thus find in Norwegian law a provision enabling the authorities to limit the number of licences, but also an obligation to collect the information necessary to determine whether the number of taxis is sufficient to meet demand.³ Under the reformed law in England, an application for a licence may be refused by reference to a quantitative limit only if the authority is satisfied that that “there is no significant demand for the services ... which is unmet”⁴

But why should regulators be able to assess supply and demand better than those exercising, or seeking to exercise, the particular trade (Ogus, 1994, 232). Take, for example, peak demand periods. Regulating the quantity of supply to meet this problem is almost impossible, while in an unregulated market vehicles which have other functions during off-peak periods can enter to meet the demand, the result being reduced costs and prices (Australian Trade Commission, 1999, 17)

In any event, there are manifest legal difficulties in interpreting and enforcing quantity controls which constrain discretion by reference to market criteria (Walker and Cram, 1992). An alternative approach – though no more convincing – is to stipulate that the number of licensed taxis should not exceed a prescribed proportion of the population of the district in question, perhaps (as in Toronto⁵) weighted by reference to the existence of an airport or other significant variables. Alternatively the authority can attempt to establish a schedule of optimal average response times to calls for service from several selected points and base its judgement on the sufficiency of supply by comparing actual times to such optimal times.⁶

¹ Town Police Clauses Act 1847, s.37.

² Décret 95-935 du 17 Août 1995, art.9.

³ Law of Transportation of 4 June 1976, no.63, Regs. 5 and 25.

⁴ Transport Act 1985, s.16, on which see Walker and Cram, 1992. A similar provision used to apply in Japan (Kang, 1998).

⁵ Trudel, 1995.

⁶ See the City of Seattle Taxicab Regulation Ordinance 118341, section 6.310.510. For the criteria used in Hong Kong, see Yang et al, 2000, 320.

Even less rational is a policy of freezing the limit at the number currently issued, but this has been formally adopted in Seattle⁷ and appears also to apply in New York (Kang, 1998). A study published in 1983 found that some US cities had not altered the number of cab licences since the 1930s (Shaw et al, 1983).

Where quantitative limits are imposed, licenses are normally, and subject to certain conditions, assignable. The market price at which such transfers take place can then provide some indication of the rents earned as a consequence of the barrier to entry, although the figure will also reflect any goodwill acquired by the particular licence-holder (Australian Trade Commission, 1999,15). The licensing authority may decide to auction licence plates and thus have the rent transferred to public funds,⁸ but the consequence is that consumers of the service are effectively paying higher taxes.

Other Entry Controls and Licensing Generally

Whether or not quantitative limits are applied, regulatory systems invariably require that both taxicab vehicles and their drivers are licensed. It follows that many of the standards involved in vehicle and driver quality controls (which will be fully considered below) have to be verified and satisfied prior to any lawful supply of the service. The administrative costs of such an ex ante scrutiny system are very high. As regulation theorists have been telling us for some time, there is also the risk that standards imposed under such a system are used to limit the number of suppliers, even though they are ostensibly designed only to control quality (Ogus, 1994, chap.10). It is, for example, alleged that the very demanding tests of knowledge and aptitude imposed by the London authorities on aspiring cab-drivers have this effect (Beesley, 1973).

What then is the justification for the use of this method of quality regulation? Would it not be possible to impose the same controls without limiting entry ex ante? Certainly, that would seem preferable as regards the vehicle complying with quality requirements, but it is difficult to monitor the driver's knowledge of the district ex post. However the most powerful argument for the licensing technique is one based on enforcement considerations (Gallick and Sisk, 117; and see more generally, Shavell, 1993). The capital invested and acquired in licence plates by the licence-holder operates as a bond which the latter will forfeit to the authority should he or she, or the vehicle, fail to comply with the quality standards imposed. Reliance on the ex post infliction of financial penalties, notably fines, generates insufficient incentives for compliance, especially where the probability of apprehension is relatively small and the resources available to pay the penalties are limited (Ogus and Abbot, 2002).

Price Control

Where, as in Hong Kong, road space is very limited and congestion is a major problem, price controls can be used to regulate the demand for taxis relative to that for other forms of transport (Yang et al, 2000, 321). Indirectly, this amounts to a pricing of road use, justifiable by reference to externalities. There are several more traditional economic arguments justifying price controls (Frankena and Pautler, 1986). First, demand for the services is inelastic since a customer hailing a cruising cab will not be able, at low cost, to compare the price offered with that of an alternative supplier; and the same applies at a taxi stand insofar as there is in operation there a "first-in; first-out" allocation scheme. In addition, the costs of

⁷ Above n.6, section 6.310.500.

⁸ New York City so decided in 1996-97 to reduce a budget deficit (Kang, 1998).

bargaining a fare may be unduly high, or such as to enable the supplier to exploit the customer.

Of course, these arguments do not apply where cabs are hired by telephone or otherwise in advance. A separate regime, without price (and entry) controls, may thus be established for vehicles which are not allowed to solicit custom in the street or at ranks. The London minicab system⁹ and its equivalents in the UK regions¹⁰ provide obvious examples. But the existence of the parallel systems has not led to the British government endorsing the view (Australian Trade Commission, 1999, 12-13) that the ready availability of pre-hired taxi services should be sufficient to induce competitive pricing throughout the industry. Further, as we shall see, it may be possible to dismantle allocation practices at stands enabling customers to exercise freedom of choice. Deregulation of price controls should then be possible, provide that customers have sufficient information as to prevailing tariffs before entering a particular vehicle, and this can be achieved by a “price-posting” regime.

New Zealand provides an excellent example of such a regime. Taxi firms can set their own price schedules, provided that these are registered with the local authority and are displayed both inside and outside cabs.¹¹ Several surveys undertaken since deregulation indicate that prices have fallen (Morrison, 1997, 921-924).

Competition under a system of this kind should not involve haggling over prices by individual customers; rather, it is envisaged that firms will compete, offering different packages of quality and price (Australian Trade Commission, 1999, 19). It should, nevertheless, be noted that completely free price competition may not be compatible with public service obligations, should these be imposed in circumstances where other modes of public transport are not considered adequate.

Price controls remain in most jurisdictions and the problems that they generate are typical of a number of programmes which require regulators to estimate what prices would have obtained if ordinary competitive market conditions had existed (Ogus, 1994, 305-317). Historically, the introduction of the meter considerably facilitated the task of pricing individual journeys, but working out a precise formula which captures the marginal costs of supply involves complexities, since “every taxicab ride is a relatively unique service”; the cost is a function of distance, duration and destination (Gallick and Sisk, 1987, 117).

A typical approach to assessing the variables is taken in the French legislation.¹² To the uniform “drop” charge is added a price per kilometre which is increased for night-time journeys, those in conditions of snow or ice and where a return fare is unlikely. Additional charges are made for waiting time and periods during which cab progress is impeded. The tariff is revised annually to reflect changes to fuel prices, and maintenance and insurance costs.

Two incentive problems may be highlighted (ibid, 119). Given imperfect cost formulae, drivers may attempt to “cream off” the more profitable journeys and public service obligations can only deal with the more blatant examples of such conduct. Secondly, with fixed price, suppliers are tempted to skimp on quality aspects of the service. As we shall see,

⁹ ???

¹⁰ Local Government (Miscellaneous Provisions) Act 1976, Part II.

¹¹ Transport Services Licensing Act 1989, Sched.3, paras.5-7.

¹² Décret 87-238 du 06 Avril 1987.

some of these, including the condition and comfort of the vehicle and the existence of insurance cover can be regulated at relatively low cost; but others, for example, taking a circuitous route and thereby earning a higher fee, are not so easily monitored.

Quality Control

Customers hiring a taxi, whether from a stand, by hailing or by pre-trip reservation, will normally be insufficiently informed on the safety and quality of particular vehicles and their drivers. To some extent, the problem may be alleviated where firms supplying in the market are able to develop a reputation for the quality of their service. But since it is only consumers able to identify and select cabs operated by the firm who will be able to rely on this reputation, the argument does not apply to large areas of the market. It is therefore widely accepted that safety and quality regulation is necessary. The more difficult questions are how extensive the regulation should be and what forms it should take (Trudel, 1995; Australian Trade Commission, 1999; 9-11.)

Let us first examine what systems typically demand of drivers. Universally and uncontroversially they must possess a valid driving licence, carry adequate insurance cover, and have not committed a serious criminal offence, including that of driving under the influence of alcohol or drugs. In other respects, regimes differ in the scope and detail of the controls. Some reflect older styles of command-and-control regulation, being highly prescriptive. Most systems require that drivers pass tests evaluating competence in the relevant language and knowledge of the local area¹³ and some usefully extend the scope of the test to include ability to administer first aid in emergencies and coping with the transport of disabled persons.¹⁴ But one also finds regulations insisting that drivers attend training courses provided or organised by the licensing authority.¹⁵ Some regimes go clearly beyond what can be accommodated within the information asymmetry justification for quality control. A good example is the regulation of the driver's appearance. Take the following pedantic provision from the City of Seattle Ordinance:

A "driver's clothes shall be neat and clean at all times that the driver is on the driver's shift. The term 'neat and clean' as it relates to clothes shall mean that all clothing is clean, free from soil, grease and dirt, and without unrepaired rips or tears. Drivers shall not wear as an outer garment any of the following: undershirt or underwear, tank tops, body shirts (see-through mesh), swimwear, jogging or warm-up suits or sweatshirts or similar attire, or any similar clothing. Summer uniform can include Bermuda shorts ... that extend down to within two inches of the top of the knee cap".¹⁶

One should also note the existence of requirements which, though desirable, are not in practice enforceable.

So, the provision in the New Zealand regulations, requiring that the driver should not deviate "from the route that is most advantageous to the passenger".¹⁷

¹³ See, e.g., Seattle Ordinance, above n.6, 6.310.420. For typical test requirements, see the list designed by the New Zealand Transport Safety authority available at www.ltsa.govt.nz/factsheets/04.html.

¹⁴ Quebec: Trudel, 1995, 2.3.2.

¹⁵ Ibid, 2.3.1.

¹⁶ Above n.13, 6.310.465(B).

¹⁷ Above, n.11, para.18.

Where the conditions to be fulfilled by the licence-holder are vague, there is always the risk that they can be used to restrict entry on arbitrary grounds.

Thus in Toronto the driver “shall continue to remain of good character and maintain a good operating record with the ... taxicab”.¹⁸

Quality conditions applying to the taxicab are subject to similar considerations. The consumer information problem can certainly justify regulations concerning the installation and maintenance of meters as well as the means of identifying the cab and its driver. So obviously to the safety of the vehicle. But what are we to make of regulations which, as in London and some other British cities, require that taxis conform to a certain design and appearance?¹⁹ No doubt they may be more easily identified and many customers may be reassured to be conveyed in the traditional format, but if cheaper designs were to meet their needs just as well, why should these customers pay for the increased cost? The Australian Trade Commission captures the point completely:

“a wider range of vehicles could supply taxi services, including smaller vehicles in niche markets or mini-buses that carry a greater number of people. Smaller vehicles have lower operating and capital costs, while min-buses allow the capital to be used more intensively. Both outcomes could lead to lower fares” (1999, 17).

Systems Control

Whether, and if so how, taxi services should be organised by the regulating authority raises important theoretical and practical questions. In the first place, we must remember that the services may be viewed as part of a general public transport system and as such subject to public service obligations, for example twenty-four hour availability.²⁰ More particularly, a municipality or regional authority may, on cost efficiency grounds, wish to substitute taxis for bus, trams or trains; or in other ways use them for public interest purposes, such as the transportation of schoolchildren, the disabled or the elderly (Trudel, 1999). In such circumstances, the authority is effectively hiring the services from suppliers but without the problem of information asymmetry. Ordinary contractual relationships should thus be the relevant governance instrument, although the dimensions of frequency and duration might point in the direction of franchise and other so-called relational contracts which companies will compete to secure (Goetz and Scott, 1981). Positive externalities or distributional considerations might here justify subsidisation.

An excellent example is provided by the city of Saguenay-Lac-Saint-Jean, Quebec, which is reported as having a car-return service for intoxicated drivers. Two drivers operate a single cab, and when they are called, one takes the inebriated individual home in the latter's car, the other collecting the partner when that trip has been completed (the cost to the individual being 150% the normal fare) (Trudel, 1995, 2.2.2.).

Some regulation may appear to be related to the public service concept but is more easily justified in terms of reducing co-ordination costs. One example is a set of rules determining how two or more independent persons may share a taxi for a single journey,²¹ the difficulty of such passengers negotiating a solution being often serious. A more delicate issue is whether

¹⁸ By-Law No.20-85, Schedule 8, section 66(c).

¹⁹ The regulations made under the London Cab Order 1934 are available at <http://www.taxi-L.org/cof/htm>.

²⁰ Regulatory authorities can and do impose such requirements on businesses which are licensed to provide services. See, e.g., City of Portland Code, section 16.40.510, cited in Boroski and Mildner, 1998.

²¹ See, *ibid*, para.19.

non-consensual sharing should be allowed and even encouraged. In the U.S.A. prohibitions of the practice have existed since the First War, the object being apparently to protect streetcars from competition (Eckert and Hilton, 1972) and the ban still applies in some jurisdictions, even though it prevents a significant reduction in fares (Boroski and Mildner, 1998). In contrast, in British Columbia, the imposition of “shared ride” services, with appropriate changes to fare tariffs, is seen as the key to the economic viability of the taxi industry (Taxi Study Panel, 1999, 10).

In some, notably Scandinavian, jurisdictions all licensed taxis have to be linked to a centre operating a radio booking system (Månsson, 1985). In Norway, such a centre may itself have a regulatory role:

“to the extent it is needed to secure an effective taxi service, the board of the taxi centre can establish a binding and detailed scheme of work stating what period the single taxis shall be on duty”.²²

The key argument for the requirement of a centre is that of economies of scale and scope advanced by Teal and Berglund (1987) on the basis of an empirical study of taxi deregulation in the USA. They contend that, given the customer-specific nature of the taxi trade, large and experienced firms have considerable cost advantages over small and certainly single-owned taxis. They can, for example, operate sophisticated communication systems and develop specialist services. This is the probable explanation for their empirical finding that, in several jurisdictions studied in the USA, a consequence of deregulation was a significant rise in the average taxi fares. One policy response is, then, the Scandinavian solution; another is to issue cab licences only to taxicab firms, satisfying certain standards and with a minimum number of vehicles.

In Portland, Oregon: the firm must own at least 15 vehicles, two third of which are operational at any one time; its office must be open and staffed a minimum of 8 hours a day, 5 days a week; there must be in operation a dispatch system capable of providing reasonably prompt service in response to telephone calls.²³

Among other “systems” controls, the convention or rule that cabs entering the rank first must be hired first²⁴ is of some vintage and has generated some interesting policy debate. We have already seen that such a system is inconsistent with price competition and for that reason has been abolished in those jurisdictions which have deregulated price controls.²⁵ On the other hand, it obviously avoids the hassle which a free-for-all will generate and that might be particularly beneficial in locations such as airports where space is limited and there is a large flow of passengers requiring the service (Australian Trade Commission, 1999, 16).

Interestingly, what has occurred at many airports following deregulation is that the system of “first in, first out” has continued de facto, either because customers are unaware that they need not go to the front of the queue or because the airport authorities tacitly favour the

²² Above n.3, Reg.23.

²³ City of Portland Code, above n.20.

²⁴ See, e.g., Toronto By-Law, above n.18, section 87.

²⁵ “The driver shall accept the first fare offered, whether or not the driver’s vehicle is first on the stand”: New Zealand Act, above n.11, para. 14(3)(c)..

system as providing the only orderly way of providing the service.²⁶ In consequence, high-priced suppliers have been able to maintain their presence at the locations and “cream off” the more inelastic demand typically to be found there. Given also that customers arriving at airports may be particularly vulnerable because of language difficulties, or because they are very tired after a long journey, regulation has re-emerged for airport taxi services in the form either of special licensing systems, or controlled fares, or both. Examples may be found in a number of jurisdictions including New Zealand (Morrison, 1997, 919) and several states in the U.S.A. (Frankena and Pautler, 1986, 156-157).

Institutional Aspects

In the preceding pages, we have seen how some aspects of taxi regulation may be justified by public interest, primarily economic arguments. At the same time, we have seen that the systems can also serve to sustain or enhance monopolistic profits. In this final section, we consider the extent to which the institutional arrangements can protect the public interest against rent-seeking opportunities.

The key variables here are the nature of the regulatory authority and the degree of its accountability. Insofar as good taxi regulation requires detailed information on local conditions, then there are clear advantages to decentralised decision-making. However, public choice theory and conventional wisdom suggest that the more localised the decision makers, the easier they are to capture by private interests (Noam, 1982). The optimal solution would then appear to be local regulators, but subject to legislative principles or guidelines which articulate public interest aims and procedures which are transparent and for which the decision-makers are accountable.

We should note first that the general framework for taxi regulation is often to be found in national (or state) legislation; and that sometimes, but not always, it includes standards governing quality and “systems”: France²⁷ and New Zealand²⁸ provide examples. Rule-making of this kind is by a democratically elected body and is transparent, but the principles emerging are often vague, leaving much in the way of discretion to the local regulatory authority. Conversely where, as typically occurs in North America, the rules are to be found in municipal legislation, and thus the result of less transparent processes, they tend to be much more detailed.²⁹ The national legislative framework may include criteria for the award of licences, but the key role of processing and determining applications is invariably for the local regulatory authority. Normally there are rights of appeal to a specially constituted committee of that authority. Beyond that, there may be possibility of judicial review by a court or tribunal of a more general jurisdiction, thus enhancing the accountability of the process (Walker and Cram, 1992). On the other hand, in some jurisdictions such review may not enter into the merits of the case, but rather be restricted to ensuring that proper procedures have been observed.

²⁶ Tensions are, however, created where drivers, having waited an hour or two, are forced to accept short trips. To meet the problem, a special “short trip” queue can be established: Taxi Panel Study 1999, 80.

²⁷ Above n.2.

²⁸ Above n.11.

²⁹ See, e.g., the Seattle Ordinance, above n.6 and the Toronto By-Law, above n.18.

The local institutions used for regulating taxis vary considerably. Their jurisdiction may be geographically quite extensive but, in urban areas, may be no wider than a municipality. This may lead to complexities where journeys are taken across the relevant boundaries (Taxi Study Panel, 1999, 54-55)³⁰. Traditionally, it has been assumed that, to protect the public interest, the members of the authority should be entirely independent of the industry. In London, rather anomalously, the police assume this function, but more often it is a commission with members representing, or nominated by, the local government, with the evident risk that local political considerations may unduly influence decisions. The possibility of capture is no doubt reduced if, as in New Zealand, the authority has responsibility for other transport or commercial undertakings.

Of course, if – and to the extent that – the processes of deregulation begin really to bite, and the industry becomes more competitive, the regulatory tasks are less with licensing and pricing and more with safety, achieving fair competition and broader policy questions. In such a context, there is an advantage in securing the industry’s cooperation and perhaps granting to it a more substantial input into the regulatory processes (Taxi Study Panel, 1999; 54-57).

³⁰ This may give rise to “regulatory competition” between the two jurisdictions. On this generally, see Esty and Geradin, 2001.

APPENDIX 2

COMPARING WATER QUALITY REGULATION REGIMES IN DEVELOPED ECONOMIES

INTRODUCTION

The second case study is water quality, with a particular focus on drinking water. Regulatory regimes in this area date back to the end of the nineteenth century (Richardson et al, 1982, 31-37). While they have been responsive to technological change, they are also subject to scientific uncertainty regarding the effects of particular pollutants, thus necessitating systems of risk assessment. Since some of key variables - geographic, climatic and economic – are highly localised, one might have expected a large degree of decentralisation. In fact, and particularly within Europe, there have been sustained efforts at harmonisation of standards and processes.

It is not difficult to identify the forms of market failure which render the regulation of water quality desirable (Burrows, 1979, ch.3). Consumers of water cannot, prior to purchase and consumption, ascertain its quality and, even were this possible, the invariable monopolistic character of the supply means that they have no choice. Obviously, too, there are major negative externalities associated with quality defects including serious, often catastrophic, health effects. For centuries private property rights have been used to overcome some of these problems and in some contexts continue to have vitality (McGillivray and Wightman, 1997). Nevertheless, given the typical widespread problems associated with impaired water quality and the expenses of enforcing private property rights, regulatory interventions by public law and institutions are generally necessary (Swanson, 1991).

In the following pages we shall see how the design of appropriate regulatory institutions, principles and procedures has to respond to a variety of key issues. Much technical knowhow is deployed in the measurement of water quality levels and the definition of quality goals (see e.g. Chapman, 1996). The focus here is on how the scientific evidence can be converted into manageable and cost-effective standards.

WATER QUALITY GOALS

General

Every regulatory system must be based on water quality goals, whether these are explicit or only implicit. In theory the aim should be to meet the preferences of consumers, at a cost which the latter are willing to pay. But there are major problems in identifying the preferences and consequentially developing the relevant standards. In the first place, there are obvious informational barriers for most consumers in forming preferences regarding technical aspects of water quality. Nor, if formed, can they easily be communicated to suppliers or regulators and, given the monopolistic nature of supply, little can be inferred from purchasing behaviour. In practice, therefore, regulators must make assumptions regarding preferences.

Secondly, there are diverse users of water with very different quality requirements: for example, industry typically, but not invariably, is satisfied with relatively low quality but personal users obviously need a higher quality, particularly for washing and consumption. Of course, if particular areas of supply can be confined to particular classes of customers, then differentiated quality goals can be used. But, at least as regards public suppliers, it appears

that large economies of scale and of scope generally³¹ preclude this possibility (Productivity Commission, 2000, 30-31). Given that there are very few alternatives to water, it follows that regulators will push quality goals towards the expectations of the most sensitive of the anticipated users of the supply, generally those drinking it.

In practice the regulation of drinking water quality is dominated by issues of health and safety. The UK legislation, adapting to European Directives,³² requires that “water that supplied to any premises is ... wholesome”³³ and similar language is used in New Zealand.³⁴ Federal controls in the USA are still mainly derived from the Safe Drinking Water Act of 1974. Other aspects may, in some contexts, be important, but because demand for them is relatively elastic, locality and cost considerations become highly significant, legal standards (if any) have a low profile and comparison between jurisdictions is not very fruitful.

Interpreting notions of “wholesomeness” or “safety” gives rise to some key legal and policy issues. Here we focus on three questions: the extent to which the regulatory goals should be relative to cost and similar considerations; the manner in which scientific uncertainty and risk assessment should be addressed; and the extent to which uniformity across regions and countries is desirable.

Relativity of Quality Goals

It is clear that a regulatory system cannot achieve, and therefore should not aim at, a perfect quality of drinking water, meaning the total elimination of all risks to safety and health. But there are important differences between jurisdictions regarding precisely what should be attempted. In particular, we can distinguish between those who adopt a policy of maximising protection and those whose aim is to optimize protection.

The maximising approach recognises that full compliance with the legislative goal of zero risk is not expected in practice, but success is measured by reference to how close the level attained is to the legislative goal, and the strategy is to induce as much protection as possible. A statement in a Canadian policy document on water quality epitomises the approach.

“It is recognised that not all drinking water systems will be able to meet these more restrictive guidelines immediately and that priority ... may be based on factors such as cost and the degree to which the drinking water systems exceed the guideline values. However, it is recommended that all public and private drinking water supplies aim to reduce concentrations of these substances to below the specified values as soon as practicable” (Health Canada, 1996).

There are different legislative techniques to implement this strategy. It is, of course, possible formally to carve out exceptions to the required standard. For “water intended for human consumption” to be “wholesome and clean” under the governing European Directive, it must be “free from any micro-organisms and parasites and from any substances which, in numbers or concentrations, constitute a potential danger to human health” and meet the listed

³¹ For an account of an experiment to the contrary, see Productivity Commission, 2000, 31.

³² Notably Drinking Water Directive 98/83/EC.

³³ Water Industry Act 1991, s.67

³⁴ Water Supply Protection Regulations 1961, implementing the Health Act 1956.

microbiological, chemical and indicator parameters.³⁵ But non-commercial supply serving fewer than 50 persons is exempt³⁶ and Member States may claim derogations, “limited to as short a time as possible” for non-dangerous failures to comply.³⁷ An alternative, if less transparent, approach is to render the statutory standards absolute, but for the enforcement authorities to exercise its discretion not to apply pressure on offenders who are considered to be making reasonable progress towards the required standard (Ogus, 1994, 171). This seems to be the effect of the somewhat intricate legislative framework established for England and Wales.

Suppliers are under a legal duty to provide water which is “wholesome”. Water is treated as “wholesome” if it complies with the standards in the European Directive, but the converse is not the case: the legislation appears to leave open the possibility that a failure to comply may still be consistent with it being “wholesome”.³⁸ What is or is not wholesome is not conclusive for the separate criminal offence of supplying water “unfit for human consumption” and, in relation to this, it is a defence for the supplier to show that “he took all reasonable steps and exercised all due diligence for securing that the water was fit for human consumption”.³⁹

From an economic perspective, the maximising approach is inherently unsatisfactory in that, though it tacitly acknowledges that complete protection against risk is undesirable, it provides no alternative goal. The reason why such protection is undesirable provides the key to the alternative approach: the cost to society in meeting this goal is inevitably too high; we are unwilling to sacrifice what we can obtain from the resources which would have to be used to achieve this end. Once the notion of a trade-off between cost and protection of health is accepted, we can speak meaningfully of optimizing water quality: achieving that level of protection where the costs of meeting the standard are approximate to (or in a different version are not disproportionate to) the benefits it generates at that level.

The notion that it is appropriate, perhaps even imperative, to subject regulatory interventions to some form of cost-benefit analysis has gained considerable currency in recent years (Ogus, 1998), but it has been principally in the USA that the movement has had a key impact on the legislative framework, and the regulation of drinking water quality regulation provides an excellent example.

The Environmental Protection Agency has power to prescribe national drinking water regulations, including maximum contaminant levels. When proposing such a level, the Administrator must conduct an analysis of:

“quantifiable and non-quantifiable health risk reduction benefits likely to occur from compliance” and of the

“quantifiable and non-quantifiable costs likely to result from compliance; and of the “incremental costs and benefits associated with each alternative maximum contaminant level considered”

The report must contain a “determination as to whether the benefits of the maximum contaminant level justify, or do not justify, the costs based on the analysis”.⁴⁰

³⁵ Directive 98/83/EC, Article 4(1).

³⁶ *Ibid*, Article 3(2)(b).

³⁷ *Ibid*, Article 9(1).

³⁸ Water Industry Act 1991, s.67. Annotation by N.Stanley in *Current Law Statutes* 1991, vol.3.

³⁹ Water Industry Act 1991, s.70.

⁴⁰ US Federal Code Title 42, Chapter 6A, Subchapter XII, Sec.300g-1(b)(3)(C).

It has to be recognised that cost-benefit analysis in this area is by no means easy and, for that reason is somewhat controversial (McGarity, 1991). The benefits to be derived from increased water quality, in particular, must be speculative, both because of the uncertainty arising from the causal link between water quality and health (see further below) and because the benefits of avoiding illness are not easily quantifiable. The reference in the American legislation to “non-quantifiable” benefits reveals an awareness of the necessarily broader scope to the inquiry.

Of course, it is arguable that the inclusion of non-quantifiable benefits and costs robs the exercise of precision and thereby undermines its value. But that would be the case only if the purpose of the analysis were to provide a determinative judgement on what is optimal quality. Cost-benefit analysis remains a legitimate and important tool for regulatory policy-making even with a more limited ambition of confronting the theoretical goal of optimal water quality by means of hypotheses based on incomplete information (Froud et al, 1998, 194-197). There is merit in forcing officials responsible for regulatory proposals to address questions such as: “if the costs of achieving a particular level of water quality are of the order of €x-y, are the likely benefits sufficient to render such expenditure appropriate (or not disproportionate)?” Moreover the attempt to stratify the information in the cost-benefit form should imply that the ultimate decision is less dependent on the values and subjective opinions of those making the decision (Pollak, 1998, 352).

Risk Assessment and Scientific Uncertainty

Assessing risks is central to the task of formulating water quality goals, since in most cases the presence of contaminants in water gives rise to only a probability, rather than a certainty, of adverse consequences. All regulatory systems rely on scientific evidence for this purpose, whether such evidence is acquired directly, or indirectly through an agency such as the World Health Organisation.⁴¹ Again it is the American federal legislation which is the most explicit on how the evidence should be used in setting quality standards.

There must first be a determination that a particular contaminant has an adverse effect on health and that it is “known to occur or there is a substantial likelihood that [it] will occur in public water systems with a frequency and at levels of public concern”.⁴² The Administrator must undertake risk assessment, using “the best available, peer-reviewed science and supporting studies conducted in accordance with sound and objective scientific practices and data collected by accepted methods or best available methods”. To support a proposal to control the contaminant, the Administrator must then in a public document, specify “to the extent practicable –

1. each population addressed by any estimate of public health effects;
2. the expected risk or central estimate of risk for the specific populations;
3. each appropriate upper-bound or lower-bound estimate of risk
4. each significant uncertainty identified in the process of the assessment of public health effects and studies that would assist in resolving the uncertainty; and
5. peer-reviewed studies known to the Administrator that support, are directly relevant to, or fail to support any estimate of public health effects and the methodology used to reconcile inconsistencies in the scientific data”.⁴³

⁴¹ The WHO has been publishing water quality standards since 1958: for the latest Guidelines, see WHO, 1996.

⁴² Above n.40, Sec. 300g-1(b)(1)(A).

⁴³ Ibid, Sec.300g-1(b)(3)(B)

Risk assessment then contributes to the optimizing approach in the following way. First, a value is attributed to the risk from the contaminant, reflecting both the perceived probability of illness and other harm occurring (say p) and the predictable costs should the risk materialise (say D).⁴⁴ An assessment is then made of the cost of achieving different levels of water quality (say C) and comparing that cost with the predictable reduction in pD to which the achievement of that quality gives rise. The point at which the marginal increase to C is approximately equivalent to the marginal reduction in pD may then be identified as the level of optimal quality (Ogus, 1994, 153-154).

Three possible types of refinement, or modification, of the analysis must now be mentioned. The first addresses the issue of distributional justice (Sugden and Williams, 1978, 201-207). What emerges from the cost-benefit analysis as “optimal” may not accord with perceived notions of fairness: a particular level of water protection may yield maximum aggregate welfare, but nevertheless the costs may fall inequitably on certain groups within the population. For example, a traditional cost-benefit appraisal may suggest that the costs of eliminating a particular contaminant are disproportionate to the benefits, given that it poses a potential risk only to a small number of individuals, say especially vulnerable elderly people. This is perhaps a matter for political judgement, but the policy-makers can be obliged to provide relevant information on how the costs and benefits fall on different groups in the population. Under the American federal legislation, in selecting contaminants for regulation, the Administrator must

“take into consideration ... the effect of such contaminants upon subgroups that comprise a meaningful portion of the general population (such as infants, children, pregnant women, the elderly, individuals with a history of serious illness, or other subpopulations) that are identifiable as being at greater risk of adverse health effects due to exposure to contaminants in drinking water than the general population”.⁴⁵

A second area of refinement allows for an element of subjectivity to enter into the evaluation of risks. Individuals differ in their attitude to risks and in what they are prepared to pay (C) to alleviate them. If a given population is particularly averse to the risk of a water contaminant, then in principle pD should be increased, thus justifying spending additional resources on risk reduction (C) (Pearce, 1994, 133-137). This reasoning might be applied where, controversially, lay perceptions of risk diverge significantly from the scientific evidence (Viscusi, 1998, ch.2), but a better strategy might be to attempt to educate lay opinion (Ogus, 1997).

This last suggestion assumes that the scientific evidence is certain and uncontroverted. In fact, a major problem in determining appropriate water quality goals is the significant degree of scientific uncertainty concerning the impact of various contaminants, in particular as to the causal link between quality levels and specific illnesses. For example, it is a matter of speculation what concentrations of pathogens like cryptosporidium and giardia can cause infection (Productivity Commission, 2000, 35). Indeed, particularly in recent years and particularly in some countries there has emerged a more general scepticism concerning scientific judgments and the role they play in the public policy of risk management (Jasanoff, 1999).

⁴⁴ The value attributed to pD may be further refined by weighting it according to the degree of confidence with which the prediction is made: Finker, 1990, ch.3.

⁴⁵ Above n.40, Sec. 300g-1(b)(1)(C).

The phenomenon, whether specific or general, clearly creates a dilemma for a cost-benefit risk assessment and the means of addressing it are necessarily controversial (Productivity Commission, 2000, 36). One may, of course, simply qualify the assessment by reference to the degree of confidence with which the prediction is made, but that hardly provides any guidance as to how policy-making should proceed. Consistently with what was indicated above concerning lay perceptions of risk, one might, in the alternative, treat it as an instance of risk aversion, on the assumption that greater uncertainty increases the subjective value of a risk. But is the assumption justified and, if so, how should the increase be quantified? Another possibility is to adopt the so-called “maxmin” approach: the policy option to be selected is that which provides the best outcome in the worst possible contingency (Kelsey, 1994); but that still requires identifying what is constituted by the latter situation.

These various approaches may feature in regulatory practice but are rarely acknowledged in policy or legislative documents. In contrast, the “precautionary principle” has achieved an unrivalled prominence (O’Riordan and Cameron, 1994). Originating in German regulatory policy in the 1970s as the *Vorsorgeprinzip*, it has found its way into a number of international environmental legal instruments (Cameron, 1994) and, perhaps most significantly, into the (amended) Treaty of the European Union:

“Community policy ...shall be based on the precautionary principle and on the principles that preventive action should be taken ...”⁴⁶

The principle is susceptible to various interpretations (Sunstein, 2002).

As elaborated in the 1992 Rio Declaration –

“Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation”⁴⁷

- it is unexceptional and should feature in any regulatory regime. But there are much stronger versions. One involves the transfer of burden of proof from those claiming that protection is necessary to those claiming that it is not necessary. Insofar as this interpretation simply implies that regulators should err on the side of caution, it is again entirely reasonable, but taken literally it is meaningless, since, in a situation of scientific uncertainty, proof that intervention is unnecessary is impossible. Indeed, this interpretation can easily slide into a stricter, and more harmful, version, requiring preventative action wherever there is perceived risk of very serious harm, and whatever the cost of prevention. That is an untenable position as it would inhibit almost every technological development.⁴⁸ Clearly some notion of proportionality – whether relating to the cost of the preventative measures or to the

⁴⁶ EC Treaty, article 174.

⁴⁷ United Nations Conference on Environment and Development, Agenda 21.

⁴⁸ As Sunstein point out in his perceptive paper on the subject (Sunstein, 2002), application of the interpretation of the principle would ironically also preclude much preventative regulation since there is a serious risk that such regulation, by inhibiting socially beneficial activity, would produce a larger number of deaths than would otherwise occur.

seriousness of the risk – must be involved, but the principle provides no guidance on how this is to be assessed.⁴⁹ As Pearce has observed,

“there is no escape from valuation, not least because whatever rule we adopt, it will imply an economic value” (Pearce, 1994, 145).

Homogeneity or heterogeneity of quality goals

A final, important question to be addressed concerns the relationship between quality goals in different regions and jurisdictions: to what extent is uniformity desirable? Clearly the issue has implications for the level at which water quality regulation takes place, international, national or local (Faure, 2001). We should note, first, that, accompanying privatisation, there has been an increased decentralisation of water supply services (World Bank, 2002). On the other hand, there has been an increased accumulation of information regarding water quality and the effects of pollution in international institutions like the World Health Organisation. Given the consequent wide dissemination of such information, this would seem at first blush to imply a homogeneity of approach. But theory suggests that the policy of uniform goals is not necessarily desirable.

In the first place, not all variations in quality affect health and safety. Since there are differences in costs of quality control and in geographical and climatic conditions, there is no reason to expect that preferences in different regions and jurisdictions will, in such circumstances, be uniform. Even where health and safety are involved, preferences may vary. Attitudes to risk, and how to deal with them, differ across communities and cultures; so also do the values attributed to life and freedom from illness and the opportunity costs of enhancing quality.

There are, of course, countervailing arguments. Perhaps the most potent of these applies where there are transboundary externalities: the quality goals established in one region or jurisdiction impact on consumers in another region or jurisdiction. Less persuasive is the familiar contention that, if there is competition between jurisdictions to attract enterprise, regulators will be induced to constrain regulatory costs and a “race to the bottom” will ensue. There is little evidence of this phenomenon occurring; it seems rather that firms prefer to invest capital in locations associated with higher health and environmental standards (Revesz, 1992).

The main thrust of the theoretical arguments is thus against homogeneity. But international practice is by no means based on a decentralised policy. Most national jurisdictions adopt uniform water quality standards. This is to be expected when they are relatively small like the U.K. and New Zealand. It is also perhaps understandable that the USA should adopt federal quality goals, given that federal resources are available to assist in meeting relevant standards.⁵⁰ (In Australia⁵¹ and Canada,⁵² federal guidelines exist, but they are not

⁴⁹ The guidelines on the application of the precautionary principle issued by the European Commission simply indicate that “measures based on the precautionary principle must be proportionate to the risk which is to be limited or eliminated” and “measures based on the precautionary principle must include a benefit-cost assessment ... with an eye to reducing the risk to a level that is acceptable to all the stakeholders”: ECDG, 1998.

⁵⁰ The Drinking Water State Revolving Fund, established under the Clean Water Act 1977.

⁵¹ National Health and Medical Research Council, Australian Drinking Water Guidelines 1996.

mandatory). The case for uniformity of water quality across the European Union is less clear; and indeed the latest EU Directive resiles somewhat from this goal, insisting on it only for those substances and parameters considered essential for health protection.⁵³

REGULATORY INSTRUMENTS

Regulatory instruments are used to convert quality goals into standards or other inducements directly applicable to the suppliers of water. Two aspects call for discussion: the type of standard employed and its legal character.

Type of standard

Standards for controlling water quality can be divided into three main categories (Ogus, 1994, 166-168).⁵⁴

- Target standards which are coincidental with the regulatory quality goal and thus represent outcomes to the water consumers.
- Performance standards which apply quantitative limits to characteristics of the water when it leaves the supplier.
- Specification standards which compel the supplier to adopt certain processes or substances in the treatment and/or distribution systems.

Drinking water regulation is dominated by performance standards (Productivity Commission, 2000, 49) and it is not difficult to see why. In some circumstances, target standards may appear to have advantages because the quality goal can be translated directly into the prohibited consequence and it is then left to firms to determine the cheapest means of avoiding that consequence. But, as we have seen, information on water contaminants is increasingly accumulated by centralised agencies, with the general consequence that it is cheaper for the regulator, than for individual suppliers, to determine what controls are necessary to meet the quality goals. However, these considerations rarely justify specification standards, since one cannot so readily assume that regulators will know what inputs will accomplish the regulatory goal in the most cost-effective manner. The prohibition of other inputs induces technological rigidity, since it inhibits firms from innovating in general and from developing other, and cheaper, means of meeting regulatory targets in particular. Nevertheless it may not always be possible to measure contaminants for the purpose of a performance standard, and a specification standard becomes the only realist method of control. Attempts to control the risk of *Cryptosporidium* provide a clear example.⁵⁵

Legal character

Although most regulatory instruments controlling the quality of drinking water are quantitative performance standards, their legal character may vary. We can usefully

⁵² Canadian Department of Health, Federal-Provincial Subcommittee on Drinking Water, Guidelines (6th edn, 1996).

⁵³ The 1998 Directive, above n.32. See particularly paras (4)-(6) and (17)-(18) of the Preamble.

⁵⁴ For a slightly different categorisation, see Productivity Commission 2000, 50.

⁵⁵ See, e.g., the American Interim Enhanced Surface Water Treatment Rule, promulgated in EPA 815-F-98-009 (1998) which prescribes filtration requirements. On this, see the EPA's report published in Federal Register: December 16, 1998 (Volume 63, Number 241).

distinguish between three different approaches⁵⁶ (Ogus, 1994, 170-171). The first, and most frequently adopted in industrialised countries,⁵⁷ involves prescribing the standard in a legislative instrument. In practice this is often administrative or secondary legislation,⁵⁸ rather than parliamentary or primary legislation. When the second approach is used, as notably in Australia⁵⁹ the legislation contains only general obligations and/or a power to issue detailed standards, and the latter are contained in individualised legal instruments, such as operating licences and contracts. Under the third approach, although the standards are in practice applied by the regulatory authority in interpreting a general statutory requirement of purity and safety of water, they are not made the subject of a formal legal instrument; at most they are contained in informal guidelines or a memorandum of understanding.⁶⁰

Prescribing standards in a legislative form does not necessarily guarantee full “democratic” scrutiny, because – as we have seen - it may be only administrative legislation, but there is generally some degree of openness and consultation prior to promulgation and the formality and status of this legal form confer symbolic weight on the obligations which result. On the other hand, some degree of rigidity attaches to statutory standards and the process tends also to be cumbersome and therefore amendment is costly.

At the other end of the spectrum, flexibility obtains where the standards are not formally prescribed, enabling the regulators to take account of special circumstances affecting, for example, small-scale suppliers. But this approach may generate uncertainty for suppliers and this may be particularly costly if the supplier is in private, rather than public, ownership (Productivity Commission, 2000, 109). A lack of transparency and (perhaps) absence of public scrutiny may also facilitate capture of the agency and other forms of manipulation.

The second option provides what many would regard as a reasonable compromise. It combines the advantages of both precise standards and discretion: the rules are well defined and thus facilitate enforcement and compliance; and, at the same time, they may be tailored to the circumstances of each case. On the other hand, the system may, for this reason, be costly to operate and, unless details of the permits are available for public scrutiny, it could still be vulnerable to manipulation and abuse.

INSTITUTIONAL ASPECTS

We come, in the last section of the study, to consider institutional structure and processes. The discussion can conveniently be divided into issues arising at the stage of regulatory design and those relevant to enforcement.

⁵⁶ A distinction can also be drawn between final and interim standards. The latter are often used where compliance in the short-term is considered too costly: WHO, 2000b.

⁵⁷ The 1998 EU Directive requires Member States to adopt this legal form: above n.32, art.17.

⁵⁸ E.g. in the UK the Water Supply (Water Quality) Regulations 1989, SI 1989/1147.

⁵⁹ See e.g. Sydney Water Act 1994, s.21.

⁶⁰ This appears to be the position in most provinces in Canada: above n.52.

Institutional arrangements for regulatory design

We take, first, the agency primarily responsible for the regulatory design and its connection with government.⁶¹ Various models for regulatory agencies, and the theoretical arguments applicable to them, were considered in the general part of the report.⁶² Most jurisdictions adopt model I (governmental agency) or model II (semi-autonomous agency), presumably because setting parameters for drinking water close to government facilitates coordination with other institutional settings in which public health decisions have to be made (WHO, 2000a). Nevertheless, the American EPA is a classic example of Model III (independent regulatory agency), enabling it both to amass its own (considerable) expertise and to distance itself from political interference (Vogel, 1986).

Within the water sector there are also different ways of carving out responsibilities (WHO, 2000a). A complication arises from the fact that in many jurisdictions the water supplier is a public organisation under an obligation to control and monitor its own product. Under a typical regulatory structure, it must meet targets set and monitored by a water surveillance agency, responsible for the water once it enters the supply system up to the point of consumption. Another regulatory institution, the water resource management agency, may then deal with other aspects of the water cycle, up to the point of abstraction and from the point of discharge of waste water.

The EPA, like other American agencies of its kind, spends considerable resources on conducting formal analysis of its proposals – regulatory impact analysis – and consulting interested groups. Impact analysis of EPA proposals has a long history dating back to the 1930s (Percival, 1991). Under the present arrangements,⁶³ it is required to assess the potential costs and benefits of water standards to determine whether the benefits “justify” the costs; the resulting report – which can be a document as long as 100 pages – is then reviewed by the Presidential Office of Management and Budget (Froud et al, 1998, 167-175). Most other jurisdictions require regulators to engage in some form of policy appraisal prior to the promulgation of standards.

The U.K. system of regulatory impact assessment is a rather pale imitation of the American system (Baldwin and Cave, 1999, 88).⁶⁴ The procedures in Norway amount to little more than a checklist of desirable attributes, though in the Netherlands something by way of a cost-effectiveness assessment must be provided (OECD, 1993). The European Commission has an equivalent system, the *fiche d'impact*, but the analysis tends to be superficial and little headway has been made in attempts to introduce something more rigorous (Froud et al, 1998, ch.4).

Consultation procedures serve two major purposes (OECD, 1994, ch.3). First, they enhance the transparency of decision-making, rendering those involved accountable to the public at large, at least to some degree. Secondly, they allow for social preferences to be directly fed

⁶¹ Above, we considered at what level – international, national or local – regulatory policy and rules are determined.

⁶² pp.??-??

⁶³ Executive Order, 12,866.

⁶⁴ An example is contained in the Scottish Executive Consultation Document on the proposed Water Supply (Water Quality) (Scotland) Regulations 2000, implementing the 1998 EY Directive, and available at www.scotland.gov.uk/consultations/environment/wsr2-01.asp.

into the process. As we have seen, this may be particularly important where popular opinion diverges from expert assessments of risk, and the same be said where issues of distributional justice arise (Pildes and Sunstein, 1995, 89-95). Of course, lengthy consultative procedures can be costly and generate delays in dealing with important risks. Moreover, there is the possibility that the procedures will be captured by powerful groups whose interests in no way reflect more general social preferences; consultation will then simply resemble lobbying (Ogus, 1997, 151-152). The challenge is to devise arrangements which minimise this risk while preserving the functions of consultation.

Informal arrangements can rarely succeed in this respect, since they can too easily lead to private “deals” between decision-makers and outside interests. Formal procedures fall into different categories. A typical general approach is adopted in the Australian legislation: before issuing water quality guidelines, the National Health and Medical Research Council is legislatively bound to issue a notice, seek the opinions of outsiders, publish draft proposals and then seek further submissions on the latter.⁶⁵ The American procedures aim at an even higher degree of transparency by establishing public hearings to consider the draft procedures and, at the same time, committing to the official record any written communication between officials and third parties (Froud et al, 1998, 175). This may help to restrain, or at least reveal, attempts at capturing the agency, but, by itself, it does nothing to facilitate the input of less well represented interests. One way of pursuing the latter goal is actively to communicate with, and solicit views from, disadvantaged groups; another is to set up advisory committees the membership of which is drawn from a wide section of the community (OECD 1994, 28).

So, for example, in France there is an advisory committee for each water basin, comprising representatives of water users.⁶⁶ As well as nominees of central and local government.⁶⁷

Institutional arrangements for enforcement

The agency responsible for enforcement is not always the same as that which sets the standards. This often occurs in federally-based jurisdictions where national standards are set by a federal agency but they are enforced locally at state or provincial level.

Constitutional or political considerations may, as in Europe, Canada and Australia (Productivity Commission, 2000, 117-120) inhibit endowing the federal agency with full enforcement powers. The position in the USA is complex: some States have primacy on enforcement matters; in others the EPA, which in any event plays a coordinating role, assumes this function (EPA, 2000).

However local enforcement may undermine a strategy of national uniform standards since local agencies may be more susceptible to pressure and influence than national agencies (Ogus, 1992).

The enforcement of water quality controls, as with other areas of social regulation, has given rise to two different strategies (Baldwin and Cave, 1999, 96-101). On the one hand, there is the deterrence approach which involves a coercive style and is much dependent on the effective use of heavy sanctions to achieve compliance with the law. In contrast, when an

⁶⁵ National Health and Medical Research Council Act, 1992, s.12.

⁶⁶ For the role of water user groups generally, see World Bank, 2002.

⁶⁷ Code de l'Environnement, art.L213-2.

enforcement agency adopts the cooperative approach, it relies far less on the threat of punishment and more on advice and persuasion.

Which approach is chosen in a particular jurisdiction may depend on its history and regulatory culture.⁶⁸ American and German agencies have typically opted for deterrence, whereas in most other Anglophone and European jurisdictions persuasion is preferred (Vogel 1986; Van Waarden, 1999). But there are other variables which can influence the choice, most of them arising from cost-effectiveness criteria. First, there is the question of information: the more technically sophisticated the regulated firm's activity, the more information from the firm the regulator will require in order to monitor compliance effectively; and such information will be difficult to secure without some degree of cooperation (Ayres and Braithwaite, 1992, 54-56). A second important variable is the cost to the regulator of imposing a substantial sanction for non-compliance. If, as in the UK, financial penalties can only be ordered by courts as part of the ordinary criminal process, with a high burden of proof and restrictive rules of evidence, using the deterrence approach is likely to be very costly; if, as in Germany, administrative fines⁶⁹ can be directly imposed on defaulters by regulators, without formalistic procedures, the approach is more feasible (Ogus and Abbot, 2002).

Large monetary penalties are possible under the legislation of most jurisdictions (Productivity Commission, 2000, 116-119) but whether agencies and courts are prepared to use them is another matter. Where a licensing system is adopted, the possibility of suspension or termination of the licence would seem to be a most effective inducement to compliance, but the outcome is so drastic (and obviously impossible in the case of a monopolist supplier) that regulatory authorities are most reluctant to adopt the device – it therefore largely remains an empty threat (Ayres and Braithwaite, 1992, 36).

A word, finally, on accountability. Agencies tend to be slow to provide information on enforcement policy because if the cooperative approach is adopted, and the number of formal convictions is low relative to that recorded failures to comply, they fear that they may be open to criticisms of capture, or at least pusillanimity. Nevertheless in France, the UK and the USA, the available data on compliance with quality standards is published.⁷⁰

⁶⁸ See the main part of the report

⁶⁹ In Sweden, there is an environmental sanction charge, payable by businesses for breaches of the Swedish Environmental Code 1998; see *ibid*, Chapter 30.

⁷⁰ E.g. for France, see Code de la Santé Publique, art. L1321-9; for the USA, see above n.40, s 300g-3(c)(2)(c)(iv). For the British Drinking Water Inspectorate's enforcement strategy and record, see <http://www.dwi.gov.uk/pubs/annrep99/05.htm>.