PUBLICATION THEORIES OF REGULATION

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Abstract

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This article examines the relationships between regulation and competition, and thus, between law and economy. As part of this debate, the notion of 'reflexive law' is of particular importance. This idea, which is not found within Law and Economics, but which is derived from systems theory, denotes a new form of law that captures the concept that the role of law is to stimulate self-regulation within society rather than prescribing rigid solutions for it.

This article shed lights on the need for a broader theoretical category capable of explaining both the law and the economy as well as the prospects for these orders to come into alignment with one another. The potential reconciliation, as this article suggests, lies in seeing both 'law' and the 'market order' as forms of information and knowledge transmission, with their own distinctive logic. These concepts, already to be found both within systems theory and the Austrian/neoinstitutional economics, must be further articulated so as to create a functional language through which both sets of theories, economic and legal, can converge.

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INTRODUCTION

Since the late 1970s, economic reforms have been undertaken across the world with the purpose of stimulating the development of competition in the provision of utility services which, until then, were the domain of vertically-integrated and state-owned companies. This process, labelled by some as 'marketisation', either began as a consequence of privatisation reforms, as for instance, in the UK, or was complemented *ex post* by privatisation programmes, as in the case of Chile. (DEAKIN and PRATTEN, 1999: 1).

These processes of marketisation rest on the apparent paradox that competition can be instituted and articulated via regulation. (ibid.: 1). Hence, as Prosser remarks,

[r]egulation does not cease with the end of monopoly ... Moreover, market creation also involves creating a substructure of rules and other institutional and normative devices. Some of these are market-constitutive in the sense that we cannot envisage a functioning market without them; others are designed to create the proverbial level playing field, such as the continuing prohibitions of undue preference or undue discrimination by a dominant firm. Regulation thus has an important role in market creation; and it is not merely temporary, for these rules and other pro-competitive norms need continuing policing. (PROSSER, 1999: 197).

In utilities, the sources of contemporary regulation are varied, including legislation abolishing entry barriers as well as providing for the vertical and horizontal separation between activities within the chain of supply; price control mechanisms, such as RPI-X rate-of return regulation or a combination of them; and finally, quality control standards. While price controls and quality standards are typically used to mimic competition in the face of activities traditionally operated as natural monopolies, legislation abolishing entry barriers and providing for vertical and horizontal separation are typical examples of a new form of regulation labelled by some as "regulating for competition"¹ and by others as a "new type of competition policy or *economic law*"² whose task, rather than mimicking competition, is to foster and steer it in such a way as to meet a number of often potentially disparate policy objectives: enhancing efficiency in the allocation of resources at the same time as achieving certain social goals.

¹ See Prosser, 1997; Helm, 1994: 27-28.

² DEAKIN and PRATTEN, 1999: 2.

To a large extent the legal debate has been focused on the implications of these changes for public-law concepts of accountability and transparency. Much less attention, however, has been given by legal scholars to the emergence of this new type of regulation, regulation for competition, and most importantly, to the relationship between regulation and competition, and thus between law and economy. Hence, it is the purpose of this article to reassess this new type of contemporary utility regulation.

This task is of fundamental importance given that the attempt to use regulation to institute and foster competition appears to contradict economic as well as legal theoretical underpinnings. In particular, the prominent role of contemporary utility regulation seems to contradict the influential Hayekian conception that the market is a particular kind of spontaneous order. (HAYEK, 1973-9: vol. 2: 109). Likewise the outstanding task of public intervention as a means to institute and foster competition challenges mainstream economic neoclassical theory. This theory finds it difficult to offer a rationale for the existence of regulation whose purpose is to institute markets, rather than being directed at mimicking competition in the light of market failure. In addition, systems theory with its emphasis on the inherent limits to legal control over the economy casts doubts on regulatory effectiveness, although it also offers the prospect, in the form of reflexive law, of some kind of mutual reception and recognition between the legal and the economic systems. (TEUBNER, 1993, 1987a, 1983).

The first and second parts of this article will revisit the economic and legal theoretical underpinnings that support or object to legal intervention in the economic process. This is followed by an attempt to shed a light on the need for a broader theoretical category capable of explaining both the law and the economy as well as the prospects for these orders to come into alignment with one another. The potential reconciliation, as this article suggests, lies in seeing both 'law' and the 'market order' as forms of information and knowledge transmission, with their own distinctive logic. These concepts, already to be found both within systems theory and the Austrian/neoinstitutional economics, must be further articulated so as to create a functional language through which both sets of theories, economic and legal, can converge.

THEORIES OF REGULATION

The debate on utility regulation has been enlightened by economic theoretical approaches aimed at explaining what the rationale for utility regulation is or what the observed pattern of government regulation of the economy is. Within neoclassical economics, two main economic streams of thought have advocated different explanations. One is the 'public interest theory' according to which regulation is presumed to serve the interests of the public by correcting the inefficiencies of market failures. The second theory is the 'private interest theory' with its several versions, which presupposes that regulation, rather than serving the interests of the public, is a product of private rentseeking. In addition, the economic debate has been informed by those theoretical points of view which argue that markets rest on legal foundations. The Austrian school of economics, in particular the work of Hayek, is distinctive for recognising that for a market to exist, an appropriate legal framework must be in place. From a different perspective, neoinstitutional economics or transaction cost economics also acknowledges that markets rest on non-market institutions.

On the legal side, the regulatory debate has been influenced by notions that arose initially at the time of the collectivist state. This legal debate deals with how law can be an instrument for establishing government as a major player in the economic process. Viewed from this perspective, law fulfils what systems theory calls a materialistic or instrumentalist role, that is, law is conceived so as to act directly on political, economic and social spheres. This type of law, identified with command-and-control regulation, carries implicitly an unsophisticated view of the legal order as it seems to presuppose that whatever is legally enactable is to take effect. There has been a powerful critique of this type of the post-war regulatory collectivist law. One is the economic critique coming from the Chicago school, particularly emphasised in capture theory. The other is the critique coming from the juridification debate, particularly exemplified in the works of Teubner and Habermas, who condemn the role of law of the collectivist period on the grounds of it being over-prescriptive and over regulatory.

1.1. THE ECONOMIC RATIONALE FOR REGULATION

1.1.1. The public interest theory of regulation: regulation as a means of perfecting the market

Given that the public interest theory of regulation is based on neoclassical mainstream economics³, some brief comments will be made on the latter theory before advancing the assumptions of the regulatory orthodoxy. The neoclassical approach is supported by three main assumptions. Firstly, it is assumed that the basic unit of the economic process is an individual. Hence, "social welfare can be understood only as the aggregate of all individual welfare; what is 'valuable to society' can have no other meaning." (Ogus, 1994: 23). Secondly, it is assumed that individuals behave with 'perfect rationality',

³ By neoclassical mainstream economic authors referred to economics as it has developed since the late Nineteenth century at the hands of European figures such as JEVONS and WALRAS, MARSHALL and PIGOU, and more recently Americans such as SAMUELSON and ARROW. See LITTLECHILD, 1978.

that is, individuals are conceived as self-interest egoists seeking to maximise their utilities. (ibid.: 23). Thirdly, it is assumed that information and resources flow freely in response to price variations. Individuals, then, posses the necessary information to take their utility-maximizing choices. (ibid.: 23).

Given these assumptions, under conditions of 'perfect competition' (no market failures impeding the transaction), price alone brings about 'perfect allocative efficiency', that is, a state of equilibrium in which all potential gains from trade are made. This situation is associated with an example of Pareto optimal allocation of resources, that is, with a distribution which cannot be altered in favour of any one without making any other worse off.⁴ Allocative efficiency is, then, a necessary and tautological outcome of free exchange under conditions of perfect competition.

However, as market failures are capable of obstructing the preconditions of competitive equilibrium required to deliver perfect allocative efficiency, thus causing negative effects on welfare outcomes, the normative public interest theory of regulation justifies state intervention as a means to protect the public interest against the undesirable consequences of markets operating unimpeded⁵. The state, as prescribed in welfare economics, in the face of perceived defects in the working of the economic system intervenes to correct the deficiency, that is, enters the scene to restore the lost equilibrium. This, in addition to being seen as a desirable action, is seen as costless, as it is assumed that "a government policy, once decided upon, is correctly and efficiently carried out." (LITTLECHILD, 1978: 21). In practice, the public interest theory of regulation and the neoclassical mainstream economic ideology played an important role in the nationalisation and regulation processes, including those in the UK and the United States, between the late Nineteenth and the mid Twentieth centuries⁶.

In the view of public interest theory, governmental intervention in utility industries is, then, a desirable response in light of a particular type of market failure, namely, natural or technical monopoly (PIGOU, 1912: 180), which, with more or less emphasis depending on the utility industry in question (water is the natural monopoly par excellence as opposed to telecommunications which among utilities is the industry that admits more competition⁷) and on the specific segment within each industry (natural monopoly

⁴ For an introduction to the concept of Pareto efficiency, see SLOMAN, 1994, s. 11.1; LAYARD and WALTERS, 1997.

⁵ This theory is more often assumed that articulated. For representative works see BONBRIGHT, 1961.

⁶ See Foster, 1992: ch. 11; JARELL, 1978: 273-275.

⁷ See LITTLECHILD, 1983, 1986a.

conditions certainly apply to power transmission but are less obvious in electricity generation and supply⁸), characterise these sectors⁹.

It was once commonplace to argue that under natural monopoly conditions, it is inefficient to have competition, as resources are necessarily wasted if more than one firm engages in production given the extensive scale of economies relative to the size of the market. According to this theory, monopoly should prevail for the sake of efficiency, rather than being remedied by market forces, and should be subjected to utility regulation to protect the public from services being "overpriced and under-produced relative to their true social value" (OGUS, 1994: 30). Typical utility regulatory instruments put in place to attain these purposes included entry controls (i.e. authorisation, concessions, licences) as well as price control mechanisms¹⁰ (ie. rate-or-return, sliding scale) and quality service standards.

In addition to the condition of natural monopoly, there are other examples of market failures capable of obstructing the preconditions of competitive equilibrium including

"... transaction costs (understood in a narrow sense as the costs of negotiating, monitoring and enforcing contracts), barriers to contractual cooperation (such as 'opportunism' or self seeking behaviour on the part of contracting parties), and externalities (which arise where various costs and benefits of activities are not fully captured by market prices, with the result that third parties incur losses or gains which are not fully contracted for)." (DEAKIN and PRATTEN, 1999: 4).

The modern economic analysis of law is full of examples of legal intervention which, in the presence of these conditions, are considered to enhance economic efficiency. Typical forms of this type of legal intervention include property rights,¹¹ contractual legislation¹², liability rules¹³ and criminal punishment¹⁴. All of these forms of legal intervention exist in parallel to regulation, and are "said to 'mimic the market' by allocating rights to the parties who would have acquired them but for the presence of transaction costs" (ibid.:

14 Ibid.: Ch. 11, 12.

⁸ See Department of Energy, 1988.

⁹ For views that support natural monopoly as a justification for state intervention, see MEADE, 1975. For a critical view, see DEMSETZ, 1968; POSNER, 1969.

¹⁰ For an overview of price controls as regulatory instruments, see Ogus, 1994: ch. 14; Foster, 1992: ch. 6.

¹¹ See Cooter and Ulen, 2000: Ch. 4, 5.

¹² Ibid.: Ch. 6, 7.

¹³ Ibid.: Ch. 8, 9.

4). In other words, law, under the modern analysis of law, is seen to act as a set of implicit prices to which agents respond accordingly.

We may, then, emphasise that under the postulates of neoclassical economics, the purpose of law, including regulation,

"is to bring about particular states or allocations which can be viewed as superior, in terms of allocative efficiency, to alternative situations in which no legal intervention takes place." (ibid.: 5).

It is in this sense that authors have attributed to law a 'market-perfecting' or 'market completing' character. (ibid.: 6). Precisely on this basis, authors attribute to regulators the following goal with regard to the implementation of contemporary utility regulation:

"... the task of the utility regulators is to apply economic criteria with the goal of increasing efficiency in the sense of Pareto efficiency with its goal of a state of the economy in which no reallocation of resources could make anyone better off without making someone else worse off^{*15}.

Both neoclassical mainstream economics and the public interest theory of regulation have been subjected to severe criticisms. While neoclassical economics has been criticised for "increasingly proving embarrassing, mainly because it is unable to analyse phenomena in the real world of incomplete knowledge and uncertainty" (LITTLECHILD, 1978: 9), the regulatory orthodoxy has been contested by arguments that indicate that regulation, in practice, seldom works as a *deus ex machina* eliminating unfortunate allocative consequences of market failure, but rather that it may even have even engendered more resource misallocation than it cured. (PELTZMAN, 1976: 211). In fact, the emerging argument was that the inefficiencies of 'market failures', far from being corrected by regulation, were exacerbated by 'regulatory failure'. This prompted a search for new theoretical explanations. The answers came in various forms, including the private interest theory of regulation and wider economic perspectives provided by the Austrian school of economics and the neoinstitutional economics or transaction cost economics¹⁶. Critically, the neoclassical theory and the public interest theory, useful

¹⁵ Prosser attributes this view to Foster, 1992: ch. 9.

¹⁶ In addition to these theories the validity of the public interest theory of regulation has been contested on other grounds. For instance, it has been claimed that the presence of regulation is not correlated with the presence of market failures, as regulation has been found in industries that can be typically competitive sectors, such as airlines, trucking, taxis, and ocean shipping. (See POSNER, 1974a: 336-337; GRAY, 1942: 280). At the same time, the notion of "technical failure" arguing that the disappointing performance of regulation is a consequence of the weakness of personnel (lack of expertise, adoption of passive or compromising attitudes, reluctance of court to intervene) or procedures (rigidity of legal frameworks, insufficient resources), has been advanced to explain the gap between the professed public interest objectives of regulation and their poor achievement. (See POSNER, 1974a: 336-337; OGUS, 1994: 54-56).

to justify the existence of regulation for monopoly, fell short of explaining why regulation for competition is necessary as this form of regulation cannot be said to owe its emergence to a market failure.

1.1.2. The private interest theory of regulation: regulation as a predictable response to demands of interest groups

The private interest theory of regulation was born within the context of the US regulatory practice, where utility regulation began because incumbents requested protection against entrants. Hence, the private interest theory, contrary to the old regulatory orthodoxy that assumed that regulation serves the interests of the public, conceives regulatory intervention as a response of politicians to demands of interest groups who can effectively influence those representing the collective interest to produce benefits to their members. As explained by Ogus, this theory

"stemmed from the perception that the ineffectiveness of regulatory agencies in meeting the public interest goals assigned to them could most plausibly be explained by assuming that they had been subverted by pressure, influence, and 'bribery' to protect the interests of those who were the subjects of the regulation." (OGUS, 1994: 57).

There are different variants of the private interest theory of regulation¹⁷, including 'conspiracy theory', which in the 1940s suggested the existence of regulatory capture in the form of a conspiracy between regulators and regulatees against customers¹⁸. There is also the 'life-cycle theory', of the mid 1950s, which proposed that although regulators might start to use their discretional regulatory powers independently, they would gradually be captured¹⁹. But the most distinctive contribution to this stream of thought expressed in the form of a testable theory or hypothesis (which according to its proponents set it aside from similar theories) is that proposed by GEORGE STIGLER, the Chicago economist, in his article *'Theory of Economic Regulation'*²⁰.

¹⁷ For useful introductory surveys, see Ogus, 1994: ch. 4; Foster, 1992: ch. 11; Posner, 1974a.

¹⁸ See GRAY, 1942.

¹⁹ See Berstein, 1955.

²⁰ See STIGLER, 1971. STIGLER was led to this theory by an empirical analysis conducted in the early 1960s from which he and Friedland concluded that in the case of the US electricity industry in the early 1900s, regulation had no observable effect on tariff rates, except for the year 1937 where "the equation does display a regulation effect, but ... localized in the sales for commercial and industrial consumers – the class that regulation was *not* designed to protect." STIGLER and FRIEDLAND, 1962: 7-8.

Stigler's 'theory of regulatory capture', further generalised and formalised by the work of another Chicago economist, SAM PELTZMAN²¹, predicts that "as a rule, regulation is acquired by the industry and is designed and operated primarily for its benefit." (STIGLER, 1971: 3).

This happens as the industry is the one that directly bears the benefits or the costs of regulation. In other words, it is the industry that has the "most to lose or gain." (FOSTER, 1992: 372). Since regulation has a direct impact on the monopoly profits of the regulated companies, firms have a powerful incentive to influence regulation so that the most favourable regulatory regime to their particular industries is established. Equally, regulators have an incentive to use their discretion in the monopoly's interests as their actions will typically result in greater political support.

It is important to note at this point that the theory of economic regulation feeds from public choice theory's basic assumption that representatives of institutions aimed at collective choice, rather than pursuing the public interest, act to pursue their own private concerns²². Thus, the interests of regulatees are promoted by interventionist measures and by an inflated public sector, while bureaucrats at the same time generate pressure for systems through which they can maximise their bureaucratic power and prestige. As a result, they are likely to deliver a larger amount of regulation than is justified on public interest grounds. (Ogus, 1994: 58-73).

On this basis, capture theory sees the regulatory process as a political market, where, at one extreme, the industry demands regulation as if it was an economic good²³, and on the other side, regulators supply it at a cost, which generally is paid for by votes. As in any market, at the same time that interest groups compete to influence regulatory agencies, some being more effective than others —typically regulated firms as opposed to customers who are the least organised— regulators distribute more of the commodity to those who value it the most, that is, to those whose effective demand is highest. Hence, what is at stake within the regulatory process, in the view of the capture theory, is a transfer of wealth. The industry exchanges political support for regulatory outcomes, which rarely take the form of direct financial transfers, but which typically are materialised in price-fixing or entry controls. (STIGLER, 1971: 5-6).

²¹ See Peltzman, 1976.

²² For representative work on Public Choice Theory, see in particular MUELLER, 1989; BUCHANAN and TULLOCK, 1967.

²³ As Posner put it, "since the coercive power of government can be used to give valuable benefits to particular individuals or groups, economic regulation -the expression of that power in the economic sphere- can be viewed as a product whose allocation is governed by laws of supply and demand." POSNER, 1974a: 344.

Importantly, capture theory, as originally formulated, predicts that the outcome, regulatory capture, may be economically efficient. As FOSTER explains,

"[w]hether the regulator or the legislature received a cut or not, the output and prices of a regulated industry would be virtually the same. The difference would be in the distribution of income between the parties only." (FOSTER, 1992: 372).

It cannot be otherwise, as "all interested parties – the monopoly, the legislators, the regulators, even the consumers – are assumed to be pure examples of economic man." (ibid.: 372).

Under this perspective, it is possible to construct a role for law as an instrument to channel distribution of wealth through the hands of those able to organise themselves and exert pressure on the regulatory function, rather that as a means to correct market failures.

Nevertheless, followers of the theory have campaigned for economic deregulation. Allies of this ideology explicitly have opposed restrictions on entry and control over profits under the conviction that the abolition of these regulatory devices increases, even optimises, economic efficiency²⁴. As POSNER puts it,

"we might do better to allow natural economic forces to determine business conduct and performance subject only to the constraints of antitrust policy." (POSNER, 1969: 549).

This argument, which necessarily implies that the recognised deficiencies of the market are preferable to the deficiencies of state intervention, has played a central role in the liberalisation, privatisation and re-regulation processes of the last three decades.

In this task, the theory of economic regulation, however, was not alone. The theory of public choice coupled with the theory of private property rights contributed to offer support for the beneficial effects of ownership changes from the public to the private sector, and also, from monopoly to competition. While public choice theory served to discredit public ownership by arguing that politicians and managers, rather than maximising economic efficiency, and thus society's economic welfare, ran public enterprise on the basis of their own personal interests, the theory of property rights emphasised the 'goods' of the private over the 'bads' of the public by arguing that the concentration of ownership into fewer and private hands served to reduce the principal-

²⁴ See Posner, 1969, 1975.

agent problems, which were particularly severe in the management of the public enterprises ²⁵.

1.1.3. Overcoming regulatory capture

The private interest theory of regulation, despite offering an explanation for the divergence between the promise and the reality of regulation, has been criticised on the grounds that it does not provide a concluding explanation for the evolution of regulation, or better of deregulation. As FOSTER indicates,

"In every industry that was deregulated, almost every regulated firm was opposed to deregulation. Thus, it is implausible that the regulated firms could not have outbid the resources of other interests to avoid deregulation if whether or not deregulation occurred depended on such an auction. They had much more at stake. Yet their undoubted lobbying was ineffective. What then is left of the original prediction? The deregulation of American public utilities that occurred after 1975 seems a genuine counter-example to the theory of regulatory capture – as were the contemporary privatisations in Britain – and as a result falsified the Stigler-Peltzman version of the Chicago theory. (FOSTER, 1992: 384).

At the same time, capture theory has been contested on the grounds that it is unable to fully explain the costs which the regulatees have to incur to achieve capture, an element which might well deter regulatory capture²⁶. Equally, this theory along with the public choice approach, has been challenged by theories which argue that they ignore broader desires such as altruism or ideology²⁷. At the same time, the theory has been criticised on the basis that it frames economic regulation within a bilateral relation between public regulators, on the one side, and private regulatees, on the other, a conception that is far from the practice of contemporary regulation.

Theories developed within the political science framework propose the 'regulatory space' (HANCHER and MORAN, 1989) and the 'stakeholder' (SOUTER, 1994) approaches as alternative theoretical models to understand utility regulation.

²⁵ See VICKERS and YARROW, 1988.

²⁶ In particular STIGLER treated these costs as small and negligible. For a critical response to this assumption, see NoLL, 1989: 1258-1259.

²⁷ See FARBER and FRICKEY, 1991; KELMAN, 1988.

Under the 'regulatory space' approach the proposition is that regulatory capture falsely betrays the assumption

"that 'private' influence over the regulatory process is illegitimate." (HANCHER and MORAN, 1989: 273).

This false belief is the consequence of the capture theory assumption that there are two distinct spheres, the private and the public, and that the distinctive interests of the former ought to be controlled by the sovereign authority of the latter. Hence,

"evidence that private interests benefit from regulation, or that they exercise a strong influence over the regulatory process, is naturally treated as a sign that the purpose of the activity has been distorted." (ibid.: 273-274).

It is the acceptance of this traditional private-public dichotomy, which in the opinion of HANCHER and MORAN,

"obscures perhaps the single most important feature of economic regulation under advanced capitalism: that the most important actors in the process are organizations, and organizations which, regardless of their formal status, have acquired important attributes of public status." (ibid.: 274).

Under the 'regulatory space' approach

"understanding economic regulation, then, means understanding a process of intermediation and bargaining between large and powerful organisations spanning what are conventionally termed the public and the private domains of decision-making." (ibid.: 272).

Hence, this approach proposes to frame the regulatory process within an analytical construct named 'regulatory space', where

"[i]ts occupants are involved in an often ferocious struggle for advantage." (ibid.: 277).

Alternatively, stakeholder theory, advocated, in the case of Britain, under the auspices of the leading think-tank, the Institute for Public Policy Research, assumes a pluralistic view of the regulatory function, as opposed to the bilateral conception of capture theory. However unlike the regulatory space approach which is primarily concerned with vindicating the role of firms as active actors of the regulatory process, this approach goes further in viewing regulation as a network of relations involving customers, shareholders, utility managers, market entrants, suppliers, employees, and the government. (SOUTER, 1994: 10). Hence,

"regulators must engage constructively with each of the stakeholder groups concerned ensuring that they have adequate information about the functioning of the industries they regulate to make reliable judgements about them, and that they exert appropriate influence to secure a proper balance of interests between stakeholders." (ibid.: 87).

Recently, this regulatory approach has found favour correspondence in the British Government's Review of Utility Regulation:

"if regulation is to win long-term acceptance, and thus provide a stable framework for business it must be fair, and seen to be fair, by all those with a stake in the utilities." (DTI 1998a: para. 1.6).

The important points to stress are, firstly, that under these theoretical conceptions, the language of regulatory capture is largely devoid of meaning. The involvement of interested parties, in particular regulated firms, far from being illegitimate, as proposed by capture theory, is an intrinsic and natural feature of the regulatory function. Secondly, these theoretical approaches suggest that the role of law can neither be seen as perfecting the market by correcting failures, as it is understood to be under the neoclassical mainstream economic theory, nor as serving as a channel to redistribute wealth, as is implied under capture theory. Instead, these theories suggest that the role of law is to serve as a means of communication between the plurality of participants and interests that converge within the regulatory process. Hence, it is possible to read into these theories, though not all of them articulate this idea, that the role of law, rather than being directed to impose substantive values, prescriptive norms or direct regulatory outcomes, should be to permit the gathering and transmission of fragmented and often contradictory interests from all the participants in the regulatory process, thereby co-ordinating their actions. This implicit conception of law, as we shall discuss later, is the one that Teubner has further articulated in the form of reflexive law.

1.1.4. The Austrian school of economics: Regulation as an interference in markets

The Austrian tradition²⁸ not only provides a distinct theoretical explanation of the economic world from that of the neoclassical mainstream, with different implications for the role of government within the economy, but also a particular diverse explanation for regulatory failures. Therefore, its solution is of a distinctive character.

²⁸ For a survey of who the Austrians are, and their main contributions to economics, see LITTLECHILD, 1978.

The first point to make is that Austrian economics provides a redirection of neoclassical thought by supplementing or even replacing the assumptions on which neoclassical mainstream economics rests. Firstly, Austrians assume that the basic unit of the economic process is an intelligent but complex individual decision-maker. Hence, behaviour of groups encompasses what Austrians called the 'atomistic' method, nowadays referred to as 'methodological individualism'. By that it is meant that

"[t]he nation as a whole is not equivalent to *one* large decision-maker, but is rather composed of a complex *collection* of individual decision-makers." (LITTLECHILD, 1978: 18).

Secondly, information and knowledge is incomplete and dispersed. Indeed, central to this approach is

"the fragmentation of *knowledge*, ... the fact that each member of society can only have a small fraction of the knowledge possessed by all, and that each is therefore ignorant of most of the facts on which the working of society rests" (HAYEK, 1973-9: vol. 1, 14),

the starting points of Austrians. Yet it is the *discovery* of these particular facts by different individuals and the utilisation of this dispersed knowledge to pursue an infinite range of ends by them that permits individuals to benefit most from the knowledge possessed by others. (ibid.: vol. 1, 13-14).

Within this structure of human activities, which constantly adapts itself, and functions through adapting itself, the market is one of the most significant mechanisms of coordinating individual actions by securing a high degree of coincidence of expectations and an effective utilisation of the knowledge and skills of the several members only at the price of a constant disappointment of some expectations. (ibid.: Vol. 1, 107). Markets are, then, organic phenomena, that is, they are the result of a process of discovery which takes place over time and

"which is characterised not only by *lack* of knowledge and consequent *lack* of co-ordination, but also by *learning* and *increasing* co-ordination." (LITTLECHILD, 1978: 27).

The implication is that the Austrian school of economics, rather than having as its purpose the analysis of properties of general equilibrium in a state of perfect knowledge, aims at explaining the behaviour of the world based on individuals who differ with respect to their knowledge, interpretations, expectations and alertness. (ibid.: 20). In other words,

"[n]eoclassical economics finds it appropriate to view the economy as if it were in or near a *state* of equilibrium. Austrian economics sees the economy as involved in a continual *process* of discovery, co-ordination and change." (ibid.: 10).

Hence, general welfare is achieved, not via the realisation of allocatively efficient states as put forward by neoclassical thought, but through a process of market discovery based on competition.

On this basis, Austrian economists, as a rule, are opposed to normative prescriptions since they are likely to impede the process of economic co-ordination. This happens because, as Austrians emphasise, social institutions, among them markets, are the result of human action rather than of human design. Thus, regulatory failures, in the view of the Austrians, are the result of using law for specific instrumental purposes, when this, in the words of HAYEK, is merely a

"sypnotic delusion, that is...the fiction that all the relevant facts are known to some one mind, and that it is possible to construct from this knowledge of the particulars a desirable social order." (HAYEK, 1973-79: Vol. 1, 14).

Hence, as OGUS points out,

"the centralized pool of information on which rulers must rely for regulatory measures could never replicate the widely dispersed fragments of knowledge which individuals use in pursuance of their own ends and therefore could never be adequate to anticipate all the variety of circumstances to which specific regulations must be applied." (OGUS, 1994: 57).

Let us examine in more detail the relation between the law and the economy under the work of Professor Friedrich Hayek, the leader of this school of thought.

1.1.4.1. Hayek's theory of market order

The market or *catallaxy*, in Hayek's language, is a type of 'order' in the sense of being a

"state of affairs in which a multiplicity of elements of various kinds are so related to each other that we may learn from our acquaintance with some spatial or temporal part of the whole to form correct expectations concerning the rest, or at least expectations which have a good chance of proving correct." (HAYEK, 1973-79: vol. 1, 36).

More specifically, the market is a special kind of 'spontaneous order', or *cosmos*, as opposed to a 'made' or 'imposed' order, *taxis*. As a spontaneous order, the market is an endogenous order, a self-generating order, whose equilibrium is set from within; it is an order that consists of

"a system of abstract relations between elements which are also defined only by abstract properties, and for this reason will not be intuitively perceivable and not recognizable except on the basis of a theory accounting for [its] character." (ibid.: vol. 1, 39).

It is also an order not made by humans, though a product of the action of many agents; not being made, the market order cannot legitimately be said to have a particular purpose. By contrast, *taxis* is an exogenous order, artificially established, often concrete, in the sense that it can be perceived by inspection, and having been deliberately made, it invariably serves a purpose of the maker²⁹.

The distinction between these orders, which coexist in every society, corresponds to the distinction between two types of rules, namely, the rules of conduct, *nomos*, and the rules of organisation, *thesis*. While *cosmos* rests upon *nomos*, *taxis* relies upon *thesis*. Despite *cosmos* not being deliberately established, it nevertheless rests upon rules of conduct, in the sense that it

"is the result of their elements following certain rules in their responses to their immediate environment." (ibid.: vol. 1, 43).

The rules of conduct, also named by HAYEK the "law of liberty" (ibid.: vol. 1, 94), are characterised firstly by being

"observed in action without being known to the acting person in articulated ('verbalized' or explicit) form." (ibid.: vol. 1, 19). This happens because the observance of these rules gives the group in which they are practised "superior strength, and not because this effect is known to those who are guided by them." (ibid.: vol. 1, 19). Secondly, they are purpose-independent. (ibid.: vol. 1, 50, 85). Thirdly, they are applicable to an unknown and indeterminable number of persons and instances whose nature cannot be known in advance. (ibid.: vol. 1, 86). Fourthly, they define "a protected domain of each, [so as to enable] an order of actions to form itself wherein the individuals can make feasible plans." (ibid.: vol. 1, 86). And finally, it is the prime task of judges to discover and gradually perfect the rules of conduct. (ibid.: vol. 1, 94-100).

²⁹ For detailed description of the features of these two orders, see HAYEK, 1973-79: Vol. 1, 35-48.

By contrast, the rules of organisation, also described by HAYEK as the "law of legislation" (ibid.: vol. 1, 124) constitute the deliberate making of law by representative assemblies. (ibid.: vol. 1, 72-73). Accordingly, they are

"designed to achieve particular ends, to supplement positive orders that something should be done or that particular results should be achieved, and to set up for these purposes the various agencies through which government operates." (ibid.: vol. 1, 125).

The differentiation between rules of conduct and rules of organisation "is closely related to, and sometimes equated with, the distinction between private and public law." (ibid.: vol. 1, 132). This distinction, which HAYEK explicitly accepts as valid (ibid.: vol. 1, 132), is of fundamental importance given that public law cannot substitute private law as the foundation of a spontaneous order. Nor can they be combined without perverse effects on the spontaneous order. This happens since the rules of just conduct, and thus private law, are not a means to any purpose, but merely a condition for the successful pursuit of a great variety of individual purposes. Private law is a "multi-purpose instrument" (ibid.: vol. 2, 4),

"securing [the] conditions in which the individuals and smaller groups will have favourable opportunities of mutually providing for their respective needs." (ibid.: vol. 2: 2).

Since it is only

"due to the freedom of choosing the ends of one's activities that the utilization of the knowledge dispersed through society is achieved" (ibid.: vol. 2, 9),

only this type of law, and no other,

"serves, or is the necessary condition for, the formation of a spontaneous order of actions" (ibid.: vol. 1, 112).

Likewise it is private law that can most appropriately support spontaneous order since at the same time as respecting the autonomy and capacity of action of individuals, it prevents conflict and enhances the compatibility of individual's actions by appropriately delimiting the range of permitted actions towards others, in particular by delimiting protected domains. Precisely this explains Hayek's definition of the market, as

"the special kind of spontaneous order produced by the market through people acting within the rules of the law of property, tort and contract." (ibid.: vol. 2, 109).

Constrained by these rules in their pursuits, the actions of individuals produce a complex order far more sophisticated than anything the human mind can design. (ibid.: vol. 1, 106-110).

This relationship would never occur under public law, Hayek argues, since this type of law is concerned with relations of command and obedience. This would necessarily disrupt the spontaneous order as individuals are not allowed to decide for which purposes they will use their knowledge, thus impeding the decentralised initiative its essential function, namely, to direct innovation and research. Here is precisely where the problem of law used for specific instrumentalist purposes lies. Given that legislation could never rationally reconstruct the whole system of rules, because it lacks the knowledge of all the experiences that entered into its formation, to rely wholly on public law, that is, on the purposive construction of known purposes, would necessarily lead to injustice and conflict within society. Injustice, since

"it will secure benefits to some at the expense of others, in a manner which cannot be justified by principles capable of general application." (ibid.: vol. 2, 129).

Conflict, since that structure would irremediably cause "undesigned and unavoidable inequalities of opportunity." (ibid.: vol. 2, 9). This, as HAYEK explains, happens because:

The particular results that will be determined by altering a particular action of the system will always be inconsistent with its overall order: if they were not. they could have been achieved by changing the rules on which the system was henceforth to operate. Interference, if the term is properly used, is therefore by definition an isolated act of coercion, undertaken for the purposes of achieving a particular result, and without committing oneself to do the same in all instances where some circumstances defined by a rule are the same. It is therefore, always an unjust act in which somebody is coerced (usually in the interest of a third) in circumstances where another would not be coerced, and for purposes which are not his own. It is moreover, an act which will always disrupt the overall order and will prevent the mutual adjustment of all its parts on which the spontaneous order rests. It will do this by preventing the persons to whom the specific commands are directed from adapting their actions to circumstances known to them, and by making them serve some particular ends which others are not required to serve, and which will be satisfied at the expense of some other unpredictable effects. (ibid.: vol. 2, 129).

Hayek's work, then, is distinctive for emphasising that the market order, understood as a type of spontaneous order, cannot operate effectively without the foundations

provided by private law, that is, rules of just conduct. The role of rules of just conduct, properly *law*, act to provide the right incentive for markets, intrinsically characterised by embodying a process of discovery, to adjust. It is possible to conclude, as DEAKIN and PRATTEN state, that "[p]rivate law and the market order are, then, mutually supportive elements of a 'spontaneous order' which is both the foundation of a society's well being and also the necessary condition for the freedom of its individual members." (DEAKIN and PRATTEN, 1999: 6). Conversely, HAYEK is emphatic in objecting to the use of public law commands to regulate the market order as they would merely be an interference that can only create disorder and injustice. Therefore, in Hayek's view, it is only possible "... to 'correct' an order ... by assuring that the principles on which it rests are consistently applied, but not by applying to some part of the whole principles which do not apply to the rest ..." (HAYEK, 1973-79, vol. 2: 143).

1.1.4.2. Private law as underpinning of competition; public law as an irremediable interference to markets

The normative implication of the Austrian analysis for economic regulation is the policy that the state should adopt, with the exception of some coercive intervention in very specific areas³⁰, is one "of deregulation in the sense of instituting a 'return to private law', stripping away regulatory intervention to restore the foundational law of property, contract and tort." (DEAKIN and PRATTEN, 1999: 11). This approach even rules out conventional anti-monopoly legislation. (HAYEK, 1973-9: vol. 3, 85-89). This is because public law intervention, as we have seen, blocks the process of discovery on which competition is based.

It further follows that Hayek's objection to intervention in the market has the effect of leaving little or no room for the 'market perfecting' or 'market completing' role of law proposed by the neoclassical mainstream economics, not only because it is an impossible task, but also because it is an undesirable one. It is impossible given that

If we want to make it substantively just, we can do so only by replacing the whole spontaneous order by an organization in which the share of each is fixed by some central authority. In other words, 'corrections' of the distribution brought

³⁰ HAYEK proposes that the coercive powers of the state should be limited firstly, to the enforcement of the abstract rules of just conduct, as they are the prime condition for the maintenance of a spontaneous order of society and thus the general welfare of its members (ibid.: vol. 2, 6-8); secondly, to the defence against external enemies (ibid.: Vol. 3, 41-42, 54-56); thirdly, to raise funds by taxation to provide certain collective goods (ibid.: vol. 3, 41). Importantly these collective goods do not include the provision of public utility services, which together with the exclusive right of issuing money and of providing postal services, are services which should be subjected to the competitive process. (ibid.: vol. 3, 56).

about in a spontaneous process by particular acts of interference can never be just in the sense of satisfying a rule equally applicable to all. Every single act of this kind will give rise to demands by others to be treated on the same principle; and these demands can be satisfied only if all incomes are thus allocated. The current endeavour to rely on a spontaneous order corrected according to principles of justice amounts to an attempt to have the best of two worlds which are mutually incompatible. ... (ibid.: vol. 2, 142).

It is undesirable because the advantages of competition, in the view of the Austrians, do not depend upon it being perfect. Indeed,

"competition is of value precisely because it constitutes a discovery procedure which we would not need if we could predict its results." (ibid.: vol. 3, 69).

Imperfections and disequilibria are inducements to operate in the market. It is precisely the possibility of capturing 'supra-competitive rents' or surpluses representing a temporal advantage over others which motivates entrepreneurship, thereby ensuring long-term innovation on technology and organisation³¹. Hence, *ex-post* reallocation of resources, as proposed by neoclassical economists, simply blunts incentives for individuals to channel efforts in such a way as to pursue their expectations.

Summing up, in opposition to the neoclassical mainstream economics which puts aside the relation of law to the economy, Austrians place it at the centre of the discussion, though heavily confining the role of public law to the margins of the economy. This approach to regulation, like the 'market perfecting' rules we looked at before, are also exemplified in the modern debate over utility regulation, in particular in the rationale put forward for re-regulation in the UK, and more specifically in the notions of utility regulation as a temporary device with a 'light rein' put forward by LITTLECHILD³². The expectation was that once competition was mature, regulation would become redundant. It was partly on these grounds (and also to avoid the over legalistic approach to regulatory decision-making) that the RPI-X formula was put in place as a more simple and less interventionist alternative to rate-of-return regulation³³.

³¹ See Kirzner, 1997.

³² See in particular, LITTLECHILD, 1983. For a further and more recent articulation of Littlechild's view of regulation within the context of Austrian economics, see LITTLECHILD, 1999.

³³ The degree to which RPI-X is regarded as simpler form of regulation with stronger incentives than the traditional rate-of-return has been criticised. See STELZER, 1988. For a view of the operation of rate-of-regulation in US, see STELZER, 1991. For a view of the operation of RPI-X in Britain, see REES and VICKERS, 1995.

1.1.5. Neoinstitutional economics or cost-transaction economics: The law, the market or the firm?

Neoinstitutional economics shares with the Austrian approach the rejection or at least the severe questioning of neoclassical economic theory. Hence, neoinstitutional economics sees economic phenomena as the result of learning over time, as a dynamic exercise best understood as evolutionary³⁴. Likewise, neoinstitutional economics, in opposition to neoclassical economics, sees

"the coordination of economic activity ... not merely [as] a matter of pricemediated transactions in markets, but [as] supported by a wide range of economic and social institutions that are themselves an important topic of theoretical economic inquiry." (LANGLOIS, 1986: 6).

In fact, as COASE emphasises, this approach does not

"reject existing economic theory, which ... embodies the logic of choice and is of wide applicability, but [employs] this economic theory to examine the role which the firm, the market, and the law play in the working of the economic system." (COASE, 1988: 5).

By offering a functional theory of institutions within a market economy, this economic school of thought provides useful lens to help determine when the different modes of economic coordination, 'the firm', 'the market' or 'law' including regulation, are appropriate for particular circumstances. It is by understanding transaction costs economics that it is possible to understand institutions and organisations, and therefore when the option for one rather than the other is more efficient. In other words, neoinstitutional economics claims that forms are matched to their environment, thereby implying that there is some kind of social adaptation of forms to specific environmental pressures³⁵. The observed pattern of variety of governance mechanisms is indicative of the external reality in which these forms emerge. This explains why on occasions it is the market that emerges, but on others, it is the firm. Under yet other circumstances, it is regulation.

The most distinctive contribution of neoinstitutional economics has been its explanation of when, of the two coordinating mechanisms par excellence, the firm and the market,

³⁴ Historically the development of a theory of institutions is closely linked to the evolution of the view of competition as a process. See in particular LANGLOIS, 1986: 7-15 and O'DRISCOLL, 1986: 153-156.

³⁵ For an illustration of work of functionalism of neoinstitutional econonomics, see in particular WILLIAMSON, 1993, 1986; JOSKOW, 1989; JOSKOW and ROSE, 1989; JOSKOW and SCHMALENSEE 1986.

the former is preferred over the latter. It is not our intention to rehearse in full the 'Coase Theorem'³⁶. It is enough to refer to Coase's formulation that

"if rights to perform certain actions can be bought or sold, they will tend to be acquired by those for whom they are the most valuable either for production or enjoyment." (COASE, 1988: 12).

Hence,

"a rearrangement of rights will only be undertaken when the increase in the value of production consequent upon the rearrangement is greater than the costs which would be involved in bringing it about." (ibid.: 115).

In a world of positive transaction costs which, as COASE insists, is the real world that economic agents encounter, law, in particular property rights, play a crucial role, as by amending rights and duties which people are allowed to acquire or are deemed to posses, transactions become less or more expensive³⁷. As COASE indicates,

"[e]conomic policy involves a choice among alternative social institutions, and these are created by law or are dependent on it." (ibid.: 28).

On this basis, authors have constructed a role for law of overcoming barriers to exchange. Indeed, one of the functions of law, in particular of property rights, as COOTER and Ulen put it, is to act as 'lubricators' of bargaining processes by removing the impediments to private agreements. In other words, law acts as a lubricator of bargaining processes by internalising certain transaction costs. (COOTER and ULEN, 2000: 93). On the basis that the decision to opt for one or the other coordinating mechanisms can be influenced by law, COASE notes that modern exchange processes are regulated in great detail, despite often being cited by economists as examples of perfect markets and perfect competition. As COASE puts it, contrary to the general perception of economics that

"observing the regulation of exchanges often assume[s] that they represent an attempt to exercise monopoly power and aim to restrain competition" (COASE, 1988: 9), the truth is that

³⁶ The theorem is discussed in Coase's article, 'The problem of social cost', (1960), reprinted in Coase, 1988: 95-156. For alternative analysis of the Coase theorem, see Cooter and ULEN, 2000: 81- 98.

³⁷ In a scenario of zero transaction costs, (an unrealistic approach under COASE's perceptions) "it does not matter what the law is, since people can always renegotiate without cost to acquire, subdivide and combine rights whenever this would increase the value of production." COASE, 1988: 14.

"they ignore or, at any rate, fail to emphasize an alternative explanation for these regulations: that they exist in order to reduce transaction costs and therefore to increase the volume of trade." (ibid.: 9).

Hence, COASE remarks that

"for anything approaching competition to exist, an intricate system of rules and regulations would normally be needed." (ibid.: 9).

At the same time that this school of thought has cast light on when the firm is preferable to the market, and how the law can influence these decisions, neoinstitutional economics has suggested when another coordinating mechanisms, i.e. regulation, are preferable. Transaction costs economics accepts that

"there is no reason why, on occasion, such governmental administrative regulation should not lead to an improvement in economic efficiency." (ibid.: 118).

Likewise it indicates that the alternative to adopting regulation has to be balanced against the costs of intervention, as the administrative machine is not costless. Hence, by the same principle that applies to determine whether the firm is preferable to the market, regulatory intervention would only be desirable if the benefits of the government exercising its powers are greater than the administrative costs incurred by putting the governmental machine into operation to regulate an activity. If that is not the case, as COASE himself suggests, facilitating market transactions, abandoning previous regulation, or even doing nothing would be preferable to the alternative of regulatory intervention. (ibid.: 1988: 24). It is within this context that Coase's remark, "the existence of 'externalities' does not imply that there is a *prima facie* case for governmental intervention" (ibid.: 24), has to be understood, rather than being interpreted in the sense that his work is inherently hostile to regulation.

The important point to be stressed is that the market, the firm and regulation are all institutional forms for coordination, for learning and for discovery. The firm is a place for learning as much as the market. LIKEWISE regulation is a place for discovery as much as the market. In relation to them, the theory sheds light on when one is preferable to the other, though it is still weak at providing an answer to the question of when regulation is preferable to other modes of coordination.

Summing up, neoinstitutional economics, as in the Austrian tradition, places at the centre of the discussion the law-economy relationship, as law can induce economic agents to opt for one or another form of institutions. There is even the suggestion that law, especially common law, evolves to promote efficiency (DE MEZA, 1998: 281), a hypothesis derived from Coase's remark:

"courts have often recognized the economic implications of their decisions... Furthermore, from time to time, they take these economic implications into account along with other factors, in arriving at their decisions." (COASE, 1988: 120).

Hence, neoinstitutional economics, along with the Hayekian conception, acknowledges that the working of the economy rests on non-economic structures, including legal structures, particularly of private character, but on occasions also of public type, such as regulation. Neoinstitutional economics, though, is less optimistic about markets than the Austrians, thus putting more weight on organisations, which are viewed

"... as social systems that collect, process and use information and that act in a manner which transcends and survives individual members of the organisations." (EGGERTSSON, 1998: 665).

1.2. The legal debate on regulation

1.2.1. JURIDIFICATION: THE CRITIQUE TO COMMAND-AND-CONTROL REGULATION

Moving to the legal discussion, the regulatory debate has been influenced by notions that initially arose at the time of the collectivist state. The collectivist ideology presupposed that state intervention, even at the sacrifice of individual freedom, was necessary and desirable for the purpose of conferring benefit upon the mass of people. (ROBSON, 1935: 310-311). On this philosophical basis, further reinforced by the welfare state of the post-war period, the legal debate dealt with how law could be "a control medium for state intervention and compensation." (TEUBNER, 1987a: 12).

Viewed from this perspective, law fulfils what systems theory refers to as a materialistic or instrumentalist role. Materialised law³⁸, as opposed to classical formal law concerned only with the normative requirements of conflict resolution, is tailored to the political intervention requirements of the modern welfare state which is responsible for social processes. (TEUBNER, 1987a: 14-15). At the same time, materialised law, in contrast to formal law concerned with the delimitation of abstract spheres for private-autonomous action, derives its legitimation by the social results it achieves by regulation. (ibid.: 15). Law, in its instrumentalist role is then, translated into command-and-control regulation,

³⁸ The concept of materialised law derives from MAX WEBER's distinction between formal and material legal rationality. Followers of systems theory have revived the distinction on the basis of which they equate juridification with the 'materialisation of formal law'. See TEUBNER, 1987a: 13-19; WEBER, 1978: 868ff.

in purpose-oriented rules, and into regulatory law, aimed at bringing about certain social outcomes. (ibid.: 15-19). As such, materialised law is conceived as capable of directly acting on political, economic and social spheres.

The major critique of this type of regulatory collectivist framework from the legal angle comes from the juridification debate. This debate, particularly exemplified by TEUBNER³⁹ and HABERMAS⁴⁰, condemns the role of law of the welfare state not just for the disquieting effects resulting in a 'legal explosion' or in a 'flood of norms' (BARTON, 1975: 567), but most importantly, for being over-prescriptive and over-regulatory up to the point that

"human conflicts are torn through formalization out of their living context and distorted by being subjected to legal processes" (ibid.: 7-9) or to the extreme that social conflicts are depoliticised restricting the room for manoeuvre of social movement and interest groups. (ibid.: 9-10).

Furthermore, juridification, identified "with the type of modern '*regulatory law*' in which law, in a peculiar fashion, seems to be both politicised and socialized" (ibid.: 5) results in the dysfunctional problem of law being caught in what Teubner describes as the '*regulatory trilemma*', that is,

"[e]very regulatory intervention which goes beyond [the limits of the respective self-reproduction] is either irrelevant or produces disintegrating effects on the social area of life or else disintegrating effects on regulatory law itself." (ibid.: 21).

In other words,

"the trilemma exists in three forms: first, as a problem of mutual indifference; second, as a problem of social disintegration through law; and third, as a problem of legal disintegration through society." (ibid.: 22).

On the basis of systems theory or autopoiesis (only a brief account of which can be presented here), this occurs due the fragmentation of modern societies into differentiated functional systems and sub-systems, including law, politics and the economy. These systems are autopoietic, that is, they are self-organising, self-producing and selfreferential; in other words, they spontaneously give rise to an autonomous order,

³⁹ See TEUBNER, 1987a.

⁴⁰ See Habermas, 1985.

producing and reproducing their own elements through the interaction of those elements and evolving in accordance with their own definition of themselves and their function⁴¹. These systems are 'cognitively open' but 'operatively closed'. By being cognitively open, the sub-systems are open to the environment and adaptive to it; they can receive communications from other systems, that is, be *indirectly* affected by them. Nonetheless they are operatively closed, by which it is implied that they recognise no norms other than those which they themselves produce as valid. This implies, for example, that in the legal system, social events derived their meaning through the law's unique binary code: legal/illegal. (KING, 1993: 223). Likewise, the economic system will recognise as valid only economic and not legal norms. Legal norms are merely external 'noise' which the economic system must internalise and reconstruct in accordance with its own rationality.

Reception of communication between sub-systems, then, "presupposes a process of translation or internalisation as part of which the original communication is, necessarily, subject to re-interpretation." (DEAKIN and PRATTEN, 1994: 14). In the legal context, this means that, as KING phrases it,

"[t]he normative communications of other systems cannot simply be reproduced by law as legal communication. They have to be reconstructed as law if they are to become accepted as law, and this reconstruction process may well give rise to unforeseen distortions and reductions to the meaning of the original communications as they were formulated in the political or economic systems." (KING, 1993: 227).

On this basis, the root of the failure of command-and-control regulation and of the resulting dysfunctional problem of modern juridification, the regulatory trilemma, lies in the fact that *direct* intervention by one system or sub-system on the other is impossible given the existence of internal, recursive processes of self-reproduction in each sub-system. Command-and-control regulation fails precisely because it oversteps the limits of self-reproduction of the involved sub-systems, that is, because it attempts to impose

"modes of functioning, criteria of rationality and forms of organisation which are not appropriate to the 'life word' structures of the regulated social areas and which therefore fail to achieve the desired results or do so at the cost of destroying these structures." (BLACK, 1996: 47).

It further follows, as Teubner concludes, that

⁴¹ See TEUBNER, 1993: Ch. 2, 3, 4.

"[o]ne is ...forced to abandon ideas of effective outside regulation, the notion that law or politics could have a direct goal oriented controlling influence on sectors of society." (TEUBNER, 1987a: 21). RATHER, regulatory law

"must be described in far more modest terms as the mere *triggering of self-regulatory processes*, the direction and effect of which can scarcely be predicted." (ibid.: 21).

In fact,

"[i]f we adopt this perspective and regard juridification processes as complex relations between three self-regulating social systems, we begin to grasp why 'regulatory failures' must in fact be the rule rather than the exception and that this is not merely a problem of human inadequacy or social power structures but above all one of *inadequate structural coupling of politics, law and the area of social life.*" (ibid.: 21).

1.2.2. Reflexive law: The response of systems theory to overcome regulatory failure

The proposed solution of systems theory to the regulatory dilemma of the welfare state is 'reflexive law'. Reflexive law⁴², as TEUBNER remarks, is an 'alternative within law' rather than 'an alternative to law' to solve the crisis of prescriptive regulation, diagnosed by systems theory "as a social-immune reaction to legal interventions." (ibid.: 33). Systems theory is not concerned with dismantling regulation but with shifting its emphasis. As BÜHL puts it

"[a]utopoiesis does mean simply letting things run their course. What autopoietic control in fact means is arranging the interaction and the systems which are to be controlled and developed in such a way that they can more or less regulate themselves and control each other"⁴³.

⁴² There are numerous conceptions that, like the notion of reflexive law, address the problem of regulatory failure by proposing a more abstract, more indirect control by law. Different terms have then been developed including 'thick proceduralization'. (BLACK, 2001); and 'responsive law' (AYRES, and BRAITHWAITE, 1992);); 'neo-corporatist law' (STREECK and SCHMITTER, 1985); 'proceduralisation of law' (WIETHÖLTER, 1985); 'negotiated regulation' (HARTER, 1982); and 'semi-autonomous social fields' (MOORE, 1973).

⁴³ TEUBNER, 1993: 68 citing Bülh, W., 1987 GREZEN der Autopoiesis, 39, Kölner Zeitschrift für Soziologie und Sozialpsychologie.

Certainly, the nature of autopoietic systems, rather than displacing the need for regulation, reinstates it, as regulation now has the task of ensuring system integration. This explains why deregulation, in the view of systems theory, is simply not an option.

Reflexive law holds out the possibility that regulatory law can be made effective, since rather than seeking to determine outcomes directly, it induces desired second-order effects within self-organising systems. That is, provided, that law

"is relieved of its task of regulating social areas and is instead burdened with the control of self-regulating processes"⁴⁴.

Or, similarly, if

"instead of directly regulating social behaviour, law confines itself to the regulation of organization, procedures and the redistribution of competences." (ibid. 34).

Consequently, PROSSER quotes from TEUBNER to explain that reflexive law

seeks to structure bargaining relations so as to equalize bargaining power, and it attempts to subject contracting parties to mechanisms of "public responsibility" that are designed to ensure that bargaining processes will take account of various externalities. However, within the limits of the arena that has been so structured, the parties are free to strike whatever bargains they will. Reflexive law affects the quality of outcomes without determining the agreements that will be reached. Unlike formal law, it does not take prior distributions as given. Unlike substantive law, it does not hold that certain contractual outcomes are desirable. (PROSSER, 1999: 211).

To perform this function, law can adopt a range of different indirect regulatory strategies. One is to produce communicative contact via 'interference'. Interference in the language of TEUBNER describes

"a bridging mechanism whereby social systems get beyond self-observation and link up with each other through one and the same communicative event." (TEUBNER, 1993: 86).

⁴⁴ TEUBNER, 1987a: 33. In this respect Luhmann's position is radical, unlike TEUBNER's, as LUHMANN argues that no system can regulate another. Thus regulation of self-regulation is impossible. This happens because, according to LUHMANN, a system is either autopoietic or it is not. See LUHMANN, 1992. For TEUBNER, autonomy and autopoiesis are rather a matter of degree: thus regulation of self-regulation is possible. TEUBNER, 1993: 27.

Through information and interference, operatively closed systems are maintained as cognitively open, and this is what permits structural coupling between systems. The other possibility, which seems to offer a more clear way forward, is 'coupling through organisation', by which it is implied that for subsystems to communicate, formal organizations for collective action are required. As TEUBNER explains,

"formal organizations can, as collective actors, communicate with each other across the boundaries of functional subsystems. In this process a system of inter-system relationships emerges, which in turn becomes autonomous." (ibid.: 95-96).

Under this perspective, the role of regulation would be to ensure that organisations perform this integrative function. This could be achieved through 'procedural law'⁴⁵ whose task would be to provide forms of organisation, procedures and competences for relationships within and between organisations in such a manner as to ensure that the system takes into account the impact that its operation may have on other systems, but without controlling the substantive outcome of any decision. (BLACK, 1996: 46). As BLACK further remarks,

"[p]rocedural regulation, as used in this theoretical context, means patterning decision processes, changing organisational structures and altering power relationships." (ibid.: 47).

Within these means, which have in common the attempt to procure indirect control by law of self-regulation, lies the potential structural coupling between the law and the economy, and thus, an alternative way forward for contemporary utility regulation. This idea translated to utility regulation would necessarily imply at least a two-way process of translation and reception between legal norms and economic action. Thus it is for legal doctrine to construct conceptual 'analogues' of economic processes, to invent an image of the economy, and for the economic system to invent an image of the law, that is, to develop internal mechanisms of its own by which legal norms could be understood and implemented. (DEAKIN and PRATTEN, 1999: 15). Therefore it becomes a matter of empirical study to see precisely whether these processes have emerged. This is what our empirical study on the wholesale electricity trading arrangements in E&W and in Chile will examine later in this thesis.

To summarise, it can be argued that the postulates of reflexive law have affinities with the 'regulatory space' and 'stakeholder' approaches. They converge on the idea that

⁴⁵ See TEUBNER, 1992.

participation, pluralism, collectivity of players and bargaining are fundamental elements of the regulatory task. Likewise they converge in rejecting the idea put forward by the theory of regulatory capture, that the intervention of the subjects of the regulation is pervasive *per se*. Hence, they all share the idea of abandoning the model of hierarchical and bilateral control relations and of replacing it with one based on interaction in which the multiple sub-orders (in the language of systems theory), or the multiplicity of participants and interests (in the language of the regulatory space and stakeholder approaches), communicate as equals. Nevertheless, reflexive law differs from regulatory space and stakeholder approaches in that its main goal is not the mere increase of participation, but

"[t]he creation of structural conditions for an 'organizational conscience' which would reflect the balance between function and performance of the social system" (TEUBNER, 1987a: 38).

Secondly, reflexive law is not confined to

"the 'foundational' function identified by HAYEK for the abstract rules of just conduct, namely that of supporting the purely competitive and rivalrous behaviour of self-interested agents." (DEAKIN and PRATTEN, 1999: 16).

RATHER, reflexive law extends well beyond the boundaries of the sphere of private law in its attempt "to encourage a wider range of responses within self-organising systems." (ibid.: 17). Indeed, reflexive law is aimed at co-ordinating the rationalities of different self-regulating systems with one another (TEUBNER, 1983: 273), rather than the mere preservation of self-generating structures, as conceived by Hayek. Nevertheless, systems theory shares with Austrian economics an emphasis on procedure and process, rather than on substantive outcomes.

1.3. Conclusions and the need for a larger Category of theoretical explanation

The different discourses between the economic and the legal regulatory theories which we have just reviewed are quite diverse both in their nature and in their policy regulatory implications. While systems theory sheds fundamental light on the nature of law and on the difficulties that this order has in communicating with others, it has less to say on how to conceptualise the economic order⁴⁶. Within economic theories, markets and

⁴⁶ This is particularly true in the case of TEUBNER'S work. However the work of LUHMANN has more to offer in this respect. See i.e. LUHMANN, 1990, 1988.

competition occupy a central place. However, the same cannot be said about the relationship between competition and the legal system. Coase presents some preliminary thoughts on how the law may alter economic behaviour, in particular in the sphere of private law. HAYEK goes further by suggesting that markets rest upon rules of just conduct. In other words, the closest economic theories come to conceptualising a relationship between law and the economy is accepting that markets rest on non-market foundations, but such theories are far from spelling out how the law operates in this sense. In addition, while systems theory portrays a defence of regulation in the particular form of reflexive law, the followers of the economic analysis of law, along with the Austrian school, attack the role of regulation within the economy, since in the view of the former, regulation is acquired for the private benefit of regulatees, and in the opinion of the latter, regulation interferes with the process of economic discovery and coordination of the market.

The implication is that none of these theories alone is adequate for understanding the law-economy relation. Thus, there is a need for a larger category where both legal and economic approaches can converge. Indeed there is a need to theorise law within the context of the economy. In the particular context of utilities, we need to understand how pricing mechanisms, the coordination mechanism par excellence of information in the context of markets, but also the many forms in which regulation functions, operate as means of generating information, of creating knowledge and also of operating learning and adaptation.

Although it is not the purpose of this opening article to offer a comprehensive theory on the matter, a way forward may be suggested. This lies in seeing both 'law' and the 'market order' as forms of information and knowledge transmission, each with their own distinctive logic. Concepts which are already found within systems theory, in particular in the notion of reflexive law, as well as in the Austrian/neoinstitutional economics, must be further articulated as to create a functional language where both sets of theories can come together. Then, the next step would be to understand how the process of learning unfolds in each category, the law and the economy, and how structural coupling can happen.

Let us further articulate this idea. Under the Austrian/neoinstitutional conceptions, the market creates means by which people engage in a search process, and in this manner the market mobilises knowledge. Essentially, the price mechanism allows this by coding information. This codification of information embodies a process by which the 'price' takes in information from what is going on in the market, scarcity, preferences, innovation, etc, and sends it back, disseminates it, to economic agents. What is contained in the price is coded knowledge about enormously complex events that are going on everywhere. Importantly, the motive why there is transmission of information of knowledge in the markets is that it

"... is supplied by individual self-interest – we might say by the desire to buy cheap and sell dear" (SUGDEN, 1998: 490).

The price mechanism is also path-dependent, that is, at any time it depends on the history of the system. (ibid.: 488). If compared to the legal system, it is possible to conclude that legal system does the same: it draws into itself information about society, either via litigation, legislation or contractual forms, and then transmits the information out again through its unique legal/illegal code. Both in the case of the market and of the law a process of information reception, coding, packaging and retransmission to society, under the logic of each system is being undertaking. In this sense, it can be argued that these systems are both autopoeitic.

The point to stress for the purposes of this article is that both the price system and the legal system are evolutionary processes which assist in learning, in creating knowledge, in gathering information, in applying it, in searching for co-ordination. In light of these conclusions, there is an urgent task for empirical research.

BIBLIOGRAPHY

BARTON, J. (1975) 'Behind the legal explosion', 27 Stanford Law Review, 567.

BEESLEY. M. E. (ed.) (1998) "Regulating Utilities: Understanding the Issues", *Readings 48*, Institute of Economics Affairs (IEA).

(ed.) (1997) "Regulating Utilities: Broadening the Debate", *Readings 46*, IEA.

(ed.) (1996) "Regulating Utilities: a Time for Change"?, *Readings 44*, IEA.

(ed.) (1995) *Utility Regulation: Challenge and Response*, The State of Britain's Regulatory *Regime*, Readings 42, IEA.

(ed.) (1994) "Regulating Utilities: The Way Forward", *Readings 41*, IEA.

(ed.) (1993) "Major Issues in Regulation", Readings 40, IEA.

(1992) Privatization, Regulation and Deregulation, Routledge.

- (1981) 'Liberalisation of the use of the British Telecommunications network', Department of Trade and Industry.
- BEESLEY, M.E. and LITTLECHILD, S. C. (1989) 'The regulation of privatized monopolies in the United Kindom', 20(3) *RAND Journal of Economics*, 454-472.

BENSON, B.L. (1991) "Law and Order without State Coercion", in VELJANOVSKI (1991), 159-179.

- BERSTEIN, M. (1955) *Regulating Business By Independent Commission*, Princeton University Press.
- BISHOP, M., KAY, J. and MAYER, C. (eds.) (1995) *The Regulatory Challenge*, Oxford University Press.
- BLACK, A. (1993) "Incentive regulation for public utilities", 4(2) Utilities Law Review, 93-97.

BLACKMON, G. (1994) Incentive Regulation and The Regulation Of Incentives, Kluwer.

- BLACK, J. (2001) "Proceduralizing regulation: Part II", 21(1) Oxford Journal of Legal Studies, 33-58.
- _____(2000) "Proceduralizing regulation: Part I", 20(4) Oxford Journal of Legal Studies, 597-614.

_____(1998) "Talking about regulation", Public Law, 77-105.

_____(1997) *Rules and Regulators*, Clarendon Press.

- (1996) "Constitutionalising self-regulation", 59 The Modern Law Review, 24-55.
- BLACK, J. MUCHLINSKI, P. and WALKER, P. (eds.) (1998) *Commercial Regulation and Judicial Review*, Hart Publishing.
- BISHOP, M. (1995) The regulatory challenge, Oxford University Press

BUCHANAN, J.M. (1972) Theory of Public Choice, University of Michigan Press.

COASE, R. (1993a) 'The nature of the firm: Origin', in WILLIAMSON and WINTER (1993), 34-47.

(1993b) 'The nature of the firm: meaning', in WILLIAMSON and WINTER (1993), 48-60.

(1993c) 'The nature of the firm: Influence', in WILLIAMSON, O. and WINTER (1993), 61-74.

(1993d) 'Nobel lecture: the institutional structure of production' (1991) reprinted in WILLIAMSON, O. and WINTER (1993), 227-235.

_(ed.) (1988) The firm, the market and the law, University of Chicago Press.

- COOTER, R. AND ULEN, T. (eds.) (2000) *Law and Economics*, Third edition, Addison Wesley Longman.
- CORRY, D. (1995a) '*Regulating in the Public Interest: Looking to the future*', Institute for Public Policy Research (IPPR).

_(1995b) 'Profiting from the utilities New thinking on regulatory reform, IPPR.

DE MEZA, D. (1998) 'Coase Theorem', in NEWMAN (1998), vol. 1, 270-281.

DEAKIN, S. and PRATTEN, S. (1999) 'Reinventing the Market? Competition and Regulatory Change

in Broadcasting', *Working Paper 134* (June) Centre for Business Research, University of Cambridge.

- DELANEY, E. (1999) 'Taking the plunge: from the Pool to a commodity market', *April Power Economics*, 19-21.
- DEMSETZ, H. (1998) 'Property rights concepts', in NEWMAN (1998), vol.3, 144-155.
 - (1973a) "Industry structure, market rivalry and public policy", 16(1) *Journal of Law and Economics*, 1-9.
 - _____(1973b) "The private production of public goods: A comment", 26 (2) *Journal of Law* and Economics, 407-411.
 - (1970) 'The private production of public goods', 13 (2) *Journal of Law and Economics*, 293-306.
 - (1968) 'Why regulated utilities?', 11 *The Journal of Law and Economics*, 55-66.
- Department of Energy (1988) Privatising Electricity, Cm322, HMSO.
- DICEY, A. D. (1905) Lectures on the Relation Between Law and Public Opinion in England During the Nineteenth Century, (1st ed.) Macmillan.
- DUNSIRE, A., HARTLEY, K., PARKER, D. and DIMITRIOU, B. (1988) 'Organisational status and performance: a conceptual framework for testing public choice theories', 66(Winter), Public Administration, 363-388.
- EGGERTSSON, T. (1998) 'Neoinstitutional economics', in NEWMAN (1998), vol. 2, 665-671.
- FARBER, D. AND FRICKEY, P. (1991) Law and Public Choice: A Critical Introduction, University of Chicago Press.
- FOSTER, C. D. (1995) 'Natural justice and the process of natural monopoly regulation', *Discussion Paper 9*, Centre for the Study of Regulated Industries.
 - (1992) Privatisation, Public Ownership and the Regulation of Natural Monopoly, Blackwell.
- FRIEDLAND, C. and STIGLER, G. J. (1962) 'What can regulators regulate? The case of electricity', 5 *Journal of Law and Economics*, 1-13.
- FRIEDMAN, M. (1962) Capitalism and Freedom, University of Chicago.
- GRAY, H. (1942) 'The passing of public utility concept', 16, Land Economics, 8-20.
- HANCHER, L. and MORAN, M. (eds.) (1989) *Capitalism, Culture and Economic Regulation,* Clarendon Press.

- HART. O. (1993) 'Incomplete contracts and the theory of the firm', in WILLIAMSON and WINTER (1993), 138-158.
- HARTER, P. (1982) 'Negotiating regulation: a cure for malaise', 71 *Georgetown Law Journal*, 1-118.
- HAYEK, F. A. (1973-9) *Law, Legislation and Liberty.* Vol. 1 Rules and Order, 1973; Vol. 2 The Mirage of Social Justice, 1976; vol. 3 The Political Order of The Free People, 1979, Routledge.
- HELM, D. (1995) 'Regulating in the public interest', in CORRY (1995b), 10-22.
 - (1994) 'British Utility Regulation: theory, practice and reform', 10(3) Oxford Review of *Economic Policy*, 17-39.
- HELM, D. and JENKINSON, T. (eds.) (1998) *Competition in Regulated Industries*, Oxford University Press.
- JARELL, G. A. (1978) 'The Demand for State Regulation of the Electric Utility Industry', 21(2) Journal of Law and Economics, 269-295.
- JOSKOW, P. (1989) 'Regulatory failure, regulatory reform and structural change in the electrical power industry' *Brooking Papers on Economic Activity*, 125-99.
- KELMAN, M. (1988) 'On-Democracy-Bashing: A skeptical look at the theoretical and "empirical" practice of public choice movement', 74 Virginia Law Review. 199-275.
- KING, M. (1993) 'The Truth about Autopoiesis', 20(2) Journal of Law and Society, 218-237.
- KIRZNER, I. M. (1997) 'How markets work: Disequilibrium, equilibrium and discovery', *Hobart Paper* 133, IEA.
- KLEIN, M. (1998) 'Network industries', in HELM and JENKINSON (1998), 40-76.
- LANGLOIS, R. (1986) Essays in the New Institutional Economics, Cambridge University Press.
- LEWIN, L. (1991) Self-Interest and Public Interest in Western Politics, Oxford University Press.
- LITTLECHILD, S. C. (1999) 'Privatisation, competition and regulation', Occasional Paper 110, IEA.

(1998a) 'Economic regulation of privatised water authorities and some further reflections', 4(2) *Oxford Review of Economic Policy*, 40-68.

_____(1986a) 'Economic regulation of privatised water authorities', Department of the Environment.

(1983) '*Regulation of British telecommunications profitability*', Report to the Secretary of State, Department of Industry.

_(1978) 'The Fallacy of the Mixed Economy: An 'Austrian' Critique of Economic Thinking and Policy', *Hobart Paper* 80, IEA.

LUHMANN, N. (1992) 'Some problems with reflexive law, in TEUBNER and FEBBERAGO' (1992).

(1990) Political Theory in the Welfare State, Walter de Gruyter.

MEADE, J.E. (1975) The Intelligent Radical's Guide to Economic Policy, Allen and UNWIN.

MOORE, S. (1973) 'Law and social change: the semi-autonomous social field as an appropriate subject of study', 7 *Law and Society Review*, 719-746.

MUELLER, D.C. (1989) Public Choice II, Cambridge University Press.

Noll, R. G. (1989) 'Economic perspective on the politics of regulation', in SCHMALENSEE and WILLIG (1989), vol. 2, Ch.22.

OGUS, A. (1994) Regulation: Legal Form and Economic Theory, Clarendon Press.

PELTZMAN, S. (1993) 'George Stigler's contribution to the economic analysis of regulation', 101(5) Journal of Political Economy, 818-832.

(1989) 'The economic theory of regulation after a decade of deregulation', *Brookings Papers: Microeconomics*, 1-41.

(1976) 'Towards a more General Theory of Regulation', 19 *Journal of Law and Economics*, 211-240.

PIGOU, A. C. (1912) Wealth and Welfare, McMillan.

POSNER, R. A. (1998) Overcoming Law, Harvard University Press.

(1992) *Economic Analysis of Law*, 4th. ed, LittleBrown.

(1976) Antitrust law: an Economic Perspective, University of Chicago Press.

(1975) 'The social cost of monopoly and regulation', *83 Journal of Political Economy*, 807-828.

(1974a) 'Theories of economic regulation', 5 *Bell Journal of Economics and Management Science*, 335-358.

(1974b) 'An economic analysis of legal rule-making', 3(1) *Journal of legal Studies*, 257-285.

(1971) 'Taxation by Regulation', 2(1) *Bell Journal of Economics and Management Science*, 22-50.

_(1969) 'Natural monopoly and regulation', 21 *Stanford Law Review*, 548-643.

PROSSER, T. (1999) 'Theorising Utility Regulation', 62 Modern Law Review, 196-217.

(1998) 'Constitutional limitations on privatisation', 19 Comparative Law Series, 445-466.

____(1997) Law and Regulators, Oxford University Press.

(1996) 'Appealing to the MMC: Or elsewhere?', 7(Jan.-Feb). Utilities Law Review, 2-3.

(1994) 'Utilities and social regulation', 5(4) Utilities Law Review, 156.

(1994) 'Privatisation, Regulation and Public Services', *3 Juridical Review*, 3-17.

(1989) 'Regulation of Privatised Enterprises: Institutions and Procedures', in HANCHER and MORAN (1989), 135-165.

(1986) Nationalised Industries and Public Control, Blackwell.

(1982) 'Towards a Critical Public Law', 9(1) Journal of Law and Society, 1-20.

ROBSON, W. A. (1960) Nationalised Industry and Public Ownership, Allen and Unwin.

SCOTT, C. (2001) 'Analysing regulatory space: fragmented resources and institutional design', (Summer) *Public Law*, 329-353.

(1998) 'The Jurification of Regulatory Relations in the UK Utilities Sector', in BLACK, MUCHLINSKI and WALKER (1998), 19-61.

(1995a) 'Competition and Coordination: Their role in the future of European Community Utilities Regulation', Centre for the Study of Regulated Utilities.

(1995b) 'Changing Patterns of European Community Utilities Law and Policy: An institutional hypothesis', in SHAW and MORE (1995), 193-215.

SOUTER, D. (1994) 'A stakeholder approach to regulation' in CORRY, SOUTER, WATERSON (1994), 9-99.

STIGLER, J. (1971) 'The Theory of Economic Regulation', 2(1) Bell Journal of Economics and Management Science, 3-21.

STREECK, W. AND SCHMITER, P. (eds.) (1985) Private Interest Government: Beyond Market and State, Sage.

SUGDEN, R. (1998) 'Spontaneous order', in NEWMAN (1998), Vol. 3, 485-495.

TEUBNER, G. (1993) Law as an Autopoietic System, Blackwell.

(1992) '*Regulatory law: Chronicle of a death foretold*', 4(1) Social and Legal Studies, 451-475.

(ed.) (1987a) *Juridification of Social Spheres, A Comparative Analysis in the Area of Labor,* Corporate, Antitrust and Social Welfare Law, Series A Law, European University Institute.

(ed.) (1987b) Autopoietic Law: A New Approach to Law And Society, Gruyter.

(ed.) (1985) Dilemmas of Law in the Welfare State, Walter De Gruyter.

- (1983) 'Substantive and Reflexive Elements in Modern Law', 17(2) *Law and Society Review*, 239-285.
- VICKERS, J. (1998a) 'Regulation, competition and the structure of prices', in Helm and JENKINSON (1998), 23-39.

(1996) 'Competition and regulation: The UK Experience', in BEESLEY (1996) 91-106.

(1994) *Concepts of Competition*, Clarendon Press.

(1988b) 'Government regulatory policy', 7(3) Oxford Review of Economic Policy, 13-30.

(1985) 'Strategic competition amongst the few', 1 (3) Oxford Review of Economic Policy, 39-62.

VICKERS, J. AND YARROW, G. (1991) 'The British electricity experiment', 12 *Economic Policy*, 187-232.