

EUROPEAN UNIVERSITY INSTITUTE, FLORENCE
LAW DEPARTMENT

320

EUR



E U I W O R K I N G P A P E R N O . 5 2

P O T E N T I A L A N D L I M I T S O F E C O N O M I C A N A L Y S I S :

T H E C O N S T I T U T I O N O F T H E F I R M

by

Erich Schanze

BADIA FIESOLANA, SAN DOMENICO, FIRENZE



© Erich Schanze 1982
Printed in Italy in October 1984
European University Institute
Badia Fiesolana
I-50016 San Domenico (FI)

POTENTIAL AND LIMITS OF ECONOMIC ANALYSIS:
THE CONSTITUTION OF THE FIRM*

Erich Schanze

Precis: After discussing the general scope and limits of economic analysis, the paper concentrates on the Coasean neo-institutional approach to legal problems and outlines its consequences for the design and selection of legal structures. The constitution of the firm is viewed using two schemes of analysis. First, we consider those markets that determine the choice of specific institutional arrangements ("extrinsic analysis"). Second, the paper presents a model of "intrinsic analysis," starting from the "nexus" view of the corporation, and detailing the structural ("Macro") aspect of the various private and public input/output relations. The institutional interfaces resulting from these relations, it is submitted, may be realistically explained using a triple scheme of regulatory modes (directive, contract, participation).

CONTENTS

1. Characteristics and Limits of Economic Analysis
2. The Coasean Approach
3. The Constitution of the Firm
 - 3.1. Extrinsic Analysis: Markets for Institutions
 - 3.2. Intrinsic Analysis: The Nexus Model of the Corporation
 - 3.3. Variation of the Nexus Model: A Research Programme

* Paper presented at the Seminar Cycle: "Economics, Sociology and Law Social Science Contributions to Legal Analysis" (Prof. Daintith, Prof. Teubner) at the European University Institute, Florence, Thursday, November 18, 1982).

Address: Faculty of Law, University of Frankfurt Senckenberganlage 31, D-6000 Frankfurt am Main, Federal Republic of Germany.

1. CHARACTERISTICS AND LIMITS OF ECONOMIC ANALYSIS

In his legal theory, Immanuel Kant disqualifies a mere empirical theory of law by equating it graphically to the wooden head in a fable by Phaedrus: "A head which may be beautiful, but alas! it has no brains!" (Kant, 1798:32). In the ongoing search for substantive principles of justice, legal theory currently explores the potential and the limits of an economic explanation. This is, indeed, an unprecedented and often painful move. Economics - a science founded on mundane terms as "market" and "price" -- has a parvenu appearance within the body of classical theories on the governance of human affairs. By operating on the model assumption that the individual strives to maximize its own utility, it obviously makes a virtue of selfishness (1). The notion that institutions are not founded in first principles of ethics, but rather are modalities of channeling transactions that are subjected to a process of institutional choice on a market place for institutions, appears to be the very realization of Burke's prediction that "the age of chivalry is gone. That of sophisters, calculators, and economists has succeeded and the glory of Europe is extinguished for ever". Kenneth Arrow refers to Burke's dictum in his lecture on "The Limits of Organization". He goes on to say: "The rather dry, recondite calculation of gains and losses does not lead to great enthusiasm. It does

not offer magic resolutions to difficult problems... Rationality, after all, has to do with means and ends that their relation. It does not specify why the ends are. It only tries to make us aware of the congruence or dissonance between the two. So outwardly any value discussion must come to a rest temporarily on unanalyzed postulates. There is an infinite regress as we try to justify one value judgment in terms of supposedly deeper ones". (Arrow, 1974:17).

There are certainly limits to an economic analysis of human behavior. I may briefly refer to the short but impressive papers by Coase (1978) and Nutter (1979), who reject current notions of economic imperialism within the social sciences. The seemingly higher degree of optimism expressed in a recent series of lectures by George Stigler (1980) rests on the firm basis that the science of the self-interested individual should not be intermingled with ethical preoccupations. To be explicit about this at the very beginning: I do not regard economic theory as an exclusive means of justification individual or social action, and consequently as a first-hand source for substantive principles on which human conduct should be founded. It should serve as a concept of discovery, a means of understanding institutional context. Thus, economic theory could hardly replace the Kantian vision of an ethical order of human affairs whether or not one wishes

to accept the validity of the Kantian principles of moral decisions. This analytical model contains, however, a number of rules of prudence which show in part a structural affinity with the formality of Kantian ethics: the notion of basic respect for individual preferences and rational choice, and the insistence on clear definitions of individual entitlements.

Additional features of the new approach include the understanding of institutions not as barriers, but as an open-ended and variation-rich facilitative frameworks for individual and collective choices and related transactions, as well as the postulate that every institutional arrangement should be so defined that it tends to internalize the total cost associated with a given transaction or activity. For those who think in terms of hierarchies of stable norms, the most offensive characteristic may be the general notion of an ever-changing equilibrium of institutional arrangements that are selected by substitution at the margin.

As in any theory, there are problem-prone interfaces between the model and reality. Important limits to the economic model lie in the conception of the individual wealth maximizer (who has in fact to deal with bounded rationality), in the problem of the initial assignment (or distribution) of rights, and in the relative vagueness of the magic term "preferences" (2), which can

be used not only to analyze, but also to justify odd ends. The price system does not always work. If it is brought to the work under more complicated and more realistic assumptions than those of complete information, free competition and costless transactions, results are frequently imprecise or, at least, given only as a range of possible results within the boundaries of convex functions. The formal elegance of a marginal analysis operating with the Pareto and the Kaldor-Hicks criteria does not tell us, as Kenneth Boulding (1952) has noted in referring to the Pareto criterion, whether we deal with the tip of a mole's hill or the top of Mount Everest.

This all, in my view, does not preclude exploring the potential of economic analysis. It may be that we have to be more modest in selecting our theories. Theories are, almost by definition, to be scrutinized by their logic, coherence and completeness in explaining reality. A less rigid test may follow from an economic preoccupation: the test of the relative heuristic utility of a theory. It suffices to know by standards of intuition whether, in an problem area which is clouded a theory produces a net increase in clarification. In terms of this limited research ideal, a theory may be said to be useful if it produces more scientific benefits than scientific cost. A theory may be barren in the sense that it only changes the

semantics of a stated problem and is circular in substance. Certain uses of systems theory and semiotics have exhibited this kind of scientific sterility in the recent past. However, the kind of analysis presented in the Journal of Law and Economics, in the Journal of Legal Studies, in the Bell Journal of Economics and in many leading American law reviews, and more recently in the International Journal of Law and Economics can hardly be called a sterile part of economic and legal research. The renewed interest in economic functions of legal institutions, or what might be broadly termed "neo-institutionalism", has had a substantial impact on both disciplines.

The development of transactional economics, inspired by the research of Coase and Williamson, may be regarded as one of the most important theoretical moves in economics since the development and reception of the game theory (cf. Picot, 1982). On the other hand, the economic impact of a specific legal arrangements has recently become a central and explicit theme of legal theory and practice. It may well be that transactional economics - with their explicit recognition of institutions as essential variables and not as remote circumstantial conditions in the anonymous world of the ceteres pares -- will lead to a unification of legal and economic questions in a renewed tradition of political economy. However, a coherent picture is far from being

established. Under the labels of "new political economy" and "economic analysis of law" one can find a wide variety of approaches which have a common core in the application of modern price theory to institutions but which are otherwise so diverse that further synoptic features are difficult to assemble. The different research interests of some of the most well-known proponents may serve as an initial orientation.

Posner (1977) and his school are chiefly concerned with a "positive" analysis of the common law. They contrast the "efficiency" of judge-made rules to those imposed by regulatory measures. Thereby, they are following one message of Coase's 1960 article which pointed specifically to the economic logic of Victorian judge-made nuisance law.

Coase (1960:137) himself is obviously less interested in "proving" efficiencies of judge-made law than in examining, in the light of cost considerations, the empirical variety of modes of transacting.

While the economist Coase emphasizes the economic functions of law, the lawyer/economist Calabresi (1970) stresses a more rational design of institutionalization in a law reform perspective. He also presents a general framework of regulatory modes (Calabresi/Melamed, 1972) which was recently elaborated upon and clarified by

Polinsky (1979; 1980).

Williamson (1975; 1980), and more recently Schenk (1980; 1981), are interested in the macro-aspects of institutional design in a transactional economics perspective. While Williamson works mainly on the level of comparing broadly properties of institutional arrangements within the markets and hierarchies paradigm, Schenk applies the methodology of transactional economics for the comparison of the elements of political/economic systems.

2. THE COASEAN APPROACH

My interest focuses on an economic analysis of institutional variety, to the context of economic law (in the broad sense of the legal organization of subjects and objects of economic transactions). In this area I am confident that discriminating and selecting legal regimes by cost considerations is a safe and meaningful approach.

My current interest is to reconstruct the basis of analysis which was laid out by Coase in two ingenious articles on the theory of the firm (Coase, 1937) and the problem of social cost (Coase, 1960). By emphasizing this starting point of the theory, I argue against the

shorthand reception of the theory which found expression in the early expositions of the so-called property rights theory, which has had a considerable influence on the reception of this body of learning, particularly outside of the United States of America. This school is characterized by the attempt to follow one message of Coase's 1960 article. It reconstructs every institutional setting as the outcome of an individual bargaining process, and disqualifies any arrangement which - at a first (or possibly a very shy second) look - does not readily show the features that would intuitively follow from a hypothetical bargaining. A recent paper by Furubotn (1981) on codetermination is a good example of this kind of analysis.

Let us briefly reconsider the Coase approach. The constitution of the firm is a most suitable topic because it is the explicit theme of Coase's pioneering article of 1937. For those interested in organizational problems of the firm, or its various legal appearances the article may be disappointing. Coase (1937) is interested in the more general (genetic) question of the structure and evolution of institutions. He develops a theory that the market and hierarchy are involved in a process of substitution at the margin which is guided by transaction cost considerations (Cf. Schanze, 1981). In this view, it may be too costly to carry out a given quantity of transactions in an atomistic market. The

system of internal directives employed by the firm may save costs in organizing the allocation of resources. This theory of the evolution of the firm may be generalized as a method of evaluating the efficiency of a specific institutional regime. In using price theory as a method of institutional choice, Coase does not simply extend the neoclassical analysis to different objects. The method assumes institutional competition but not in a frictionless world. Positive transaction costs are the key to institutional variation. A good illustration is Coase's note on the relation of market and planning:

"It is easy to see when the State takes over the direction of an industry that, in planning it, it is doing something which was previously done by the price mechanism. What is usually not realised is that any business man in organising the relations between his departments is also doing something which could be organised through the price mechanism. There is therefore point in Mr. Durbin's answer to those who emphasise the problems involved in economic planning that the same problems have to be solved by business men in the competitive system. The important difference between these two cases is that economic planning is imposed on industry while firms arise voluntarily because they represent a more efficient method of organizing production. In a competitive system, there is an "optimum" amount of planning". (Coase, 1937:389 n.3).

If Coase's method is valid, it changes the economic conception of legal institutions. In the neoclassical tradition, law is regarded as one constant constraining factor in the environment of the economic decision. In the Coasean scenario, the economic decision implies a

joint and unseverable evaluation of the product-specific and transaction-specific (institutional, informational, transportational) characteristics. If I interpret the szenario correctly, law is viewed as a variable system of alternative institutional arrangements which is open for choice according to cost considerations. Starting from this premise, the system has then to provide highly selective institutions which mobilize and facilitate transactions. The requisite variety and selectivity of institutions is again limited by cost considerations. Advantages of standardization of institutional design may offset advantages of extreme selectivity. Hence, in a system of rational institutional choice there is an equilibrium of standard conceptions (cogent and dispositive law, standard contracts trade or industry usages) and individual institutional variety (3).

Coase's article on social cost (1960) adds further dimensions to this mode of thought. In the earlier article, Coase works from the perspective of a single actor who evaluates cost and benefits an arrangement. In his famous demonstration that the conventional Pigouvian analysis of external effects is superficial, he shifts the focus to the interdependence of cost functions of parties who are arranging for a Pareto-superior move. If one looks at the total cost of a given arrangement, the so-called "externality" becomes a part of transaction costs. Coase teaches that costs

cannot be determined ex ante from a unilateral perspective, but that they are always the product of reciprocal consideration. Thereby, institutional choice becomes a part of a reciprocal optimization process considering the total value of production in the light of possible alternatives of transacting. Only in the neo-classical world of zero transaction costs is the initial definition of the institutional arrangement without allocative effects and, consequently, irrelevant. Such a conception is as strange as the physical world zero friction (Stigler, 1972:12).

Obviously, this approach has consequences for the institutional design in a world of positive transaction costs. An efficient legal system will be characterized not only by an equilibrium between opposing trends towards variety and standardization of institutions, but by two additional premises: a clear definition of entitlements of the decision-making unit (explicitness); and the proposition that institutional arrangements should be so defined that they include the total cost of transacting, and thus internalize externalities (internalization bias. These two premises are normative desiderata. They have to be "produced" and "maintained" by the constitutional order; they are not automatic results of free market transactions (cf. Dahlmann, 1979).

With respect to general forms of entitlements, modern economic analysis works with property rules (exclusive entitlements), liability rules (an infringement of rights is possible without prior consent, but requires compensation), and taxes and subsidies (Calabresi/Melamed, 1972; Polinsky, 1979; 1980). Taxes and subsidies are probably a variety of the more general modality of pooling and redistributing. These modalities have been tested using different qualified assumptions, such as strategic behavior and different information levels (Polinsky 1979, 1980).

Following this line of economic analysis of law, I propose to view institutional evolution as a dual process of (1) offering a broad variety of institutional designs that have the properties of both explicitness and internalization bias (and thus reject those solutions which do not meet these requirements through political/professional consensus) and of (2) choosing between the so-defined institutional alternatives by the actors with the purpose to individualize the institutional environment of their concern (institutional choice).

If institutional designs are framed - as they are typically - as packages of normative arrangements, there may be an institutional competition between these comprehensive normative entities. I will refer to this

aspect under the rubric of "extrinsic analysis". In contrast I will use the term "intrinsic analysis" for describing the selection of more individualized institutional components, or "institutional modules." Here, I envisage a structural or "macro" analysis, which I will briefly outline in this paper, and a "micro" analysis which would detail complex macro structures, and thereby reach the ordinary legal rule level in its most complex aspects.

3. THE CONSTITUTION OF THE FIRM

Let us now turn to the constitution of the large corporation. Given the complexity of legal relations relevant to the constitution of the corporation it is obvious that we do not deal with a classic example of application. A series of general propositions may be offered by simply activating single elements of the theory (4).

3.1 Extrinsic Analysis: Markets for Institutions

I have already referred to Coase's general explanation of the nature of the firm, which may be called a mode of extrinsic analysis of the firm. The market decides whether markets or firms are efficient in controlling a

given set of transactions. A related scheme of analysis is applied by Manne (1967) to explain the process of institutional differentiation within the concept of the corporation. The different forms of the large and publically owned to the small, closely held corporation are regarded as responses to the different markets which control corporate inputs. In the case of the large corporation, Manne distinguishes three such markets: the market for capital, the market for securities and the market for corporate control. In this vein Mertens and I have argued that the scheme of codetermination presented in the 1976 German Act might relate to a new, fourth market controlling the large corporation -- namely, a market of competing codetermined and non co-determined business organizations (Mertens, Schanze, 1979). The German solution, which permits a choice between the two forms of organizing rights employees' follows a pattern of institutional design consonant with the principle of openness for variety.

Another kind of understanding of Coase's market/hierarchy paradigm is found in a recent article by Brinkmann and Kèbler (1981). They argue that legislative action leading to institutional codetermination is a way of saving transaction costs, because it avoids complex bargaining about the issue. Furubotn (1981) and others (Pejovich 1978, Jensen, Meckling, 1979) argue in turn that since codetermination

rights are hardly created through voluntary arrangements between capital owners/managers and employees (an argument which would require more empirical scrutiny) the legal imposition would be per se inefficient. Without assessing here the validity of these views, it is safe to say that both lines of argumentation depart from the Coasean analysis because they do not engage in real world comparisons between the costs of selectivity and of standardization (5). In general I have argued elsewhere (Schanze, 1983) that the current instrumentalism in the application of corporate laws may be explained as an effort to stress selectivity.

Extrinsic analysis of the demonstrated kind may serve as a helpful general tool for explaining the coordinating properties of institutions and their relation to the relative availability of resources. An example which is relevant to the current issue of codetermination may illustrate the point. In the discussion about the constitution of business enterprises it has become standard practice to ask why classical corporate law concentrates on the issue of organizing the capital input alone, instead of coordinating both financial and human capital (cf. Vanberg, 1982). The textbook explanation resorts to the "invention" of limited liability, and its obvious advantages for capital suppliers. Under the umbrella of limited liability, risk-averse people were enabled to pool parts of their

wealth and to share in the fruits of the whole investment. The analysis presented here suggests to look at the relative historical shortages of corporate inputs and to scrutinize their relative institutional development. At a time when corporate law developed, finance capital was as short in supply as were the institutional forms for pooling such capital. Modern saving and banking systems were as undeveloped as was financing within the corporate format. The supply of requisite human capital in the early phases of industrialization (workers which could be trained on the job) was ample; the liberal labor contract existed as a standardized and cheap modality of transacting. Moreover, innovation was carried out by outside inventors or by owner/investors.

The economic situation in which we find codetermination schemes is obviously different. Today, modes of pooling and supplying capital to industrial ventures are manifold. The institutional framework is adapted to high mobility and allocative efficiency of capital flows; in this perspective the supply of financial capital may be regarded as ample. However, the obvious need for highly skilled and innovative human capital, and the perpetuation of trial and error procedures in the respect to the institutional side, indicate the existence of a scarcity which will likely stimulate alternative institutional means of integrating human

capital of this kind into the firm. In this area we may not yet have reached the requisite variety of institutional designs to permit an optimal institutional choice. To generalize the point, complex resources such as capital, manpower, innovative skills cannot be defined in terms of a "physical" availability, but must also be defined as functions of the relative institutional development associated with such resources. Legal concepts are likely reflecting specific institutional and physical shortages as they exist in a particular historical setting.

3.2 Intrinsic Analysis: The Nexus Model of the Corporation

Ownership of capital is central to the traditional legal concept of the corporation. The neo-institutional school of economists points out that the firm can hardly be explained as a function of one single input. Rather, they suggest that all relevant inputs should be considered. This has led to the elaboration of a fertile model of intrinsic analysis of the corporation: the "set of contracts" or "nexus" perspective of the firm (Alchain, Demsetz, 1972; Jensen, Meckling, 1976; Fama, 1980).

Fama (1980:290) restates concisely:

"Each factor in a firm is owned by somebody. The firm is just the set of contracts covering the way inputs are joined to create outputs and the way receipts from outputs are shared among inputs. In this "nexus of contracts" perspective, ownership of the firm is an irrelevant concept."

Fama (1980:289) summarizes his conclusions as follows:

"We first set aside the typical presumption that a corporation has owners in any meaningful sense. The attractive concept of the entrepreneur is also laid to rest, at least for the purposes of the large modern corporation. Instead, the two functions usually attributed to the entrepreneur, management and risk bearing, are treated as naturally separate factors within the set of contracts called a firm. The firm is disciplined by competition from other firms, which forces the evolution of devices for efficiently monitoring the performance of the entire team and of its individual members. In addition, individual participants in the firm, and in particular its managers, face both the discipline and opportunities provided by the markets for their services, both within and outside of the firm."

The nexus theory does not recognize a vested priority of one single input. It thus may serve to describe both "capitalistic" or "laboristic" types of firms. Fama does not consider the problem of codetermination. He addresses himself specifically to the problem of organizing the managerial input. He develops a theory that managerial behavior is not controlled by the grant of a residual claim, on the firm's receipts for for its outputs, as Alchian and Demsetz (1972) asserted, but that managerial behavior is monitored by outside and inside markets for managers. Fleischmann (1983:24) uses this line of argument to explain why owner/entrepreneurs have introduced voluntary schemes of codetermination in

Germany (cf. Cable, FitzRoy, 1980), while German managers are likely to oppose such schemes:

"An owner/entrepreneur who introduces codetermination may be irritated by being called on outsider in his market. However, as long as his customers accept his products, this negative judgment is likely to be irrelevant. Managers, who are dependent on their reputation on the market for managers, face a different situation. They are in a precarious situation if they do not observe the prevailing judgment of the business community".

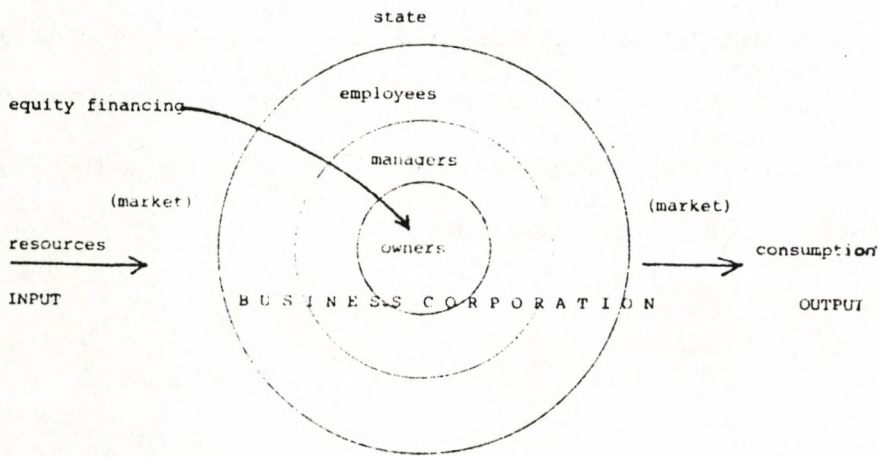
In a more general way of course this statement reveals the importance of prevailing tastes for formulating of institutional arrangements which will be attractive for a specific class of input owners.

3.3 Variation of the Nexus Model: A Research Program

The conventional model of the corporation starts from the assumption that a specific way of contributing financial capital to a productive unit defines the structure of the corporation. The corporation is viewed as an institutional scheme for organizing the interests of "owners" or equity contributors. This specific class of capital contributors and its institutional conception (common ownership/shareholding) forms the centre of the organizational structure. All other inputs are integrated into this structure through specific

"outside" markets (labor market, market for technical and administrative know-how, non-equity capital market, etc.). Some inputs are conceived as being "physically" integrated into the corporation (managers, employees) through special contracts (cf. Diagram 1: Business Corporation, conventional model).

Diagram 1 : Business Corporation, conventional model

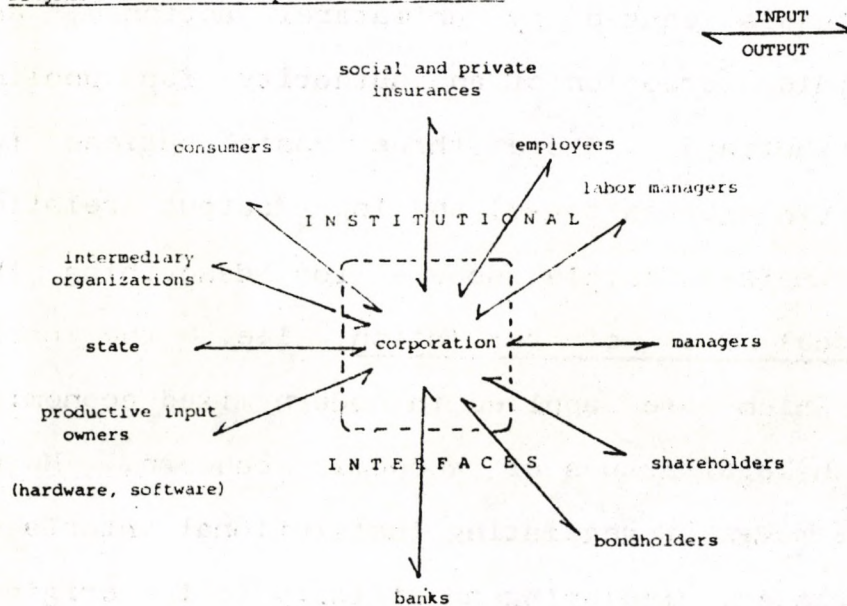


The nexus model of the firm discards the notion of a vested priority of one specific input. Rather, it stresses that all input/output relations should be analyzed as interlocking functions of the corporate concept. These relations are of course subject to change over time. During the last 200 years these functions have been modified, differentiated into subfunctions, or substituted through the process of institutional choice.

In Diagram 2, I have listed typical input/output relations relevant for the modern corporate nexus. I have distinguished eleven aggregate actors which typically engage in input/output relations within the nexus of the large corporation. They are listed clockwise as: the state, intermediary organizations; consumers; insurers against social and private

liabilities; employees; labor managers; managers; shareholders; bondholders; banks; and productive input owners.

Diagram 2 : Business Corporation, nexus model



In this model, the "constitution" of the corporation is defined by the constitution of the institutional "interfaces" of the various input/output relations. The initial nexus model as used by Alchian, Demsetz (1972), Jensen, Meckling (1976), and Fama (1980) relies solely on a contractual interface. In their conception every input/output relation is described as a contractual arrangement. This appears to be remnant of the early property rights theory. It has already been mentioned that modern economic analysis (Calabresi/Melamed, 1972;

Polinsky, 1979; 1980) has replaced the original contract (or property rule) approach by working with a triple scheme consisting of property rule (contract), liability rule (decision by a third party assessing economic losses caused by unilateral actions), and taxes/subsidies (creation of an authority for pooling and redistributing). These three basic options for regulating (in a broad sense) an input/output relation relate to another triple scheme for describing the constitutional modes of regulation, i.e. the basic procedures which are applied in modern mixed economies to deal with legal issues of economic concern. Here, three legal modes of regulating institutional interfaces may be indicated, displaying an affinity to the original triple scheme. These modes of regulation are

- (1) directive (general laws, indicative planning, administration),
- (2) contract (ad hoc coordination), and
- (3) participation (through representation and voting).

Every regulatory mode may have specific efficiency properties in the individual case. Of course, one could argue that a membership commitment, or even a directive (as, for example, an order to pool through taxation and to redistribute) may be explained as a contract in a very broad sense (social contract). However, this does not seem to be a meaningful use of the term "contract", which in the strict sense should involve a punctual

coordination of the interests of consenting parties. The concept presented here is elaborated in Diagram 3 (regulatory interface, state -- corporation).

Diagram 3: Regulatory interface, state -- corporation
structural (macro) level

REGULATORY MODES	STATE INPUTS	CORPORATE OUTPUTS
general laws indicative planning public administration	resources and infrastructure (physical, institutional, human capital) general supervision statutory subsidies	taxes , production human capital civil liabilities for harmful activities
contract	<u>as above and/or:</u> performance supervision specific infrastructure specific subsidies	<u>as above and/or:</u> periodical control and revision rights corporate infrastructure specific taxes
corporate participation	<u>as above and/or:</u> capital management supervision through voting	<u>as above and/or:</u> dividends amenities for political/bureaucratic elites, remuneration supervisory and voting rights
intermediary organization	suasion	suasion

Extrinsic control mechanisms: 1. "market for states" (regions, industry locations)
concerning resource endowment, infrastructure including laws
2. "market for corporations"
concerning capital, technology, management capacity

I have chosen the state -- corporation interface as a first illustration to demonstrate that, in this model, "public" inputs/outputs are analytically similar to classical "private" input/output relations. The state is viewed as a "super firm" (Coase, 1960) producing specific corporate inputs and consuming specific corporate outputs. It is however constitutionally privileged in one respect: As an actor, it may make extensive use of the directive as a means of regulation (it may even be constitutionally bound to use this form exclusively as a matter of its prerogative, cf. Daintith, 1978). In the actual practice of mixed economies, of course, there is ample evidence for contractual and participatory commitments of the state in various industries. This is particularly evident in the regulation of basic industries in developing countries (cf. Schanze, 1981).

However, other actors concerned with classical private input/output relations also resort to directive and participatory modes of regulation if this appears to be an appropriate framework for structuring their specific relations. In his article on the nature of the firm, Coase (1937) has shown the economic logic of the substitution of market transactions through directed transactions and vice versa. The present mix of regulatory modes is also visible in the employee -- corporation interface. Here, the classical private

labor contract remains an important regulatory structure of the institutional interface. In addition, labor and management have created an intermediary structure of collective agreements which frequently assumes the characteristics of directive or quasi-legal arrangements. Moreover, the actors concerned have used legislation as a means of regulating some specific problem areas. Sometimes, the actors have also resorted to participatory regulation, in some cases explicit codetermination. They have used this option to a varying degree depending on the organizational preferences of the actors in various countries and in various industries.

The plurality of actors and interfaces contained in the model demonstrates that a change of the institutional structure of one interface may have consequences for a multitude of input/output relations. Every change affects the institutional equilibrium and may require the adjustment of property rights as well as of positive and negative externalities in the complete nexus system. The Furubotn (1981) analysis, which views the introduction of participatory rights in the employee -- corporation interface as an "attenuation" of property rights in the shareholder -- corporation interface, arbitrarily isolates two interfaces and posits that there is a direct correlation between them. In so doing, it endorses the vested priority of equity

ownership found in the conventional model of the business corporation, rather than working with the policy-neutral nexus model. Thus, it necessarily reaches normative conclusions.

It has been the purpose of this paper not to detail, but to outline a concept of positive inquiry into the constitution of the firm (6). I have presented the economic nexus explanation combined with a concept of basic institutional modes of regulating economic transactions as a program for future research. A full review and elaboration of the various institutional interfaces made in the terms offered in this model, I presume, could adequately demonstrate the interpretive potential of economic analysis of institutions.

FOOTNOTES

- (1) The discovery of self-interest as motivating force of institutional development is no propriety of neo-institutional economists. In his "Geist des roemischen Rechts" (Spirit of Roman Law) (1852:292 seq.) the famous German jurist Rudolpf von Jhering celebrates selfishness as "the true and moving force of classical Roman law": "Selfishness is the motive of Roman universality - selfishness .. the basic pattern of the Roman character." Jhering goes on to describe Roman law as "the religion of selfishness". Within the liberal credo this is, of course, a self-fulfilling analysis.
- (2) A classic and concise exposition of these problems is given in March's (1978:593 seq.) chapter on the treatment of tastes.
- (3) In the liberal paradigm, the equilibrium of standard conceptions and individual institutional variety is understood as an antinomy of self-determination of the individual ("party autonomy") vs. state intervention ("regulation" in the conventional narrow meaning). This antinomy is not endorsed by the theory of regulation presented in this paper. Specific properties of state action are acknowledged, but they do not form a fundamental mark of distinction. The state is viewed as one (important) among many actors which are involved in the process of institutional design and choice, and which thereby regulate transactions of their concern. For the various levels of public, private and intermediary regulation in the present mixed economies, which we describe as systems of organized interdependence, see Mertens, Kirchner and Schanze (1982:71-101).
- (4) A first summary of issues concerning the concept of the corporation is found in Posner (1977:289 seq.) see also the excellent collection of papers in Posner, Scott (1980).
- (5) For detailed cost/benefit considerations concerning the German scheme of codetermination see e.g. Gaefgen (1981), Fleischmann (1983); for small corporations see Cable, FitzRoy (1980).
- (6) Other research perspectives on structural aspects of the corporate concept are developed by Kirchner (1983) or by Picot (1982).

References

- ALCHIAN, A.A., and H. DEMSETZ (1972) "Production, Information Costs, and Economic Organization," 62 American Economic Review 777.
- ARROW, Kenneth J. (1974) The Limits of Organization. New York: Norton & Co.
- ASSMANN, Heinz-Dieter, Christian KIRCHNER, and Erich SCHANZE (Eds.) (1978) Ökonomische Analyse des Rechts. Kronberg: Athenäum.
- BOULDING, Kenneth E. (1952) Welfare Economics. Homewood, Ill.
- BRINKMANN, Tomas, and Friedrich KÜBLER (1981) "Überlegungen zur ökonomischen Analyse von Unternehmensrecht," 137 Zeitschrift für die gesamte Staatswissenschaft 681.
- CABLE, John R., and Felix R. FITZROY (1980) "Productive Efficiency, Incentives and Employee Participation: Some Preliminary Results for West Germany," 33 Kyklos 100.
- CALABRESI, G., and A.D. MELAMED (1972) "Property Rules, Liability Rules, and Inalienability: One View of the Cathedral," 85 Harvard Law Review 1089.

- COASE, R.H. (1937) "The Nature of the Firm," [n.s.] 4 Economica
386-405.
- (1960) "The Problem of Social Cost," 3 Journal of Law and Economics 1.
- (1978) "Economics and Contiguous Disciplines," 7 Journal of Legal Studies 201.
- DAHLMAN, C.J. (1979) "The Problem of Externality," 22 Journal of Law and Economics 141.
- DAINTITH, Terence (1979) "Regulation by Contract: The New Prerogative," 32 Current Legal Problems 41.
- FAMA, E.F. (1980) "Agency Problems and the Theory of the Firm," 88 Journal of Political Economy 288.
- FLEISCHMANN, Gerd (1983) "Mitbestimmung und Neue Politische Ökonomie," 2 Jahrbuch für Neue Politische Ökonomie ◇ .
- FURUBOTN, Eirik (1981) "Codetermination and the Efficient Partitioning of Ownership Rights in the Firm," 137 Zeitschrift für die gesamte Staatswissenschaft 702.
- GÄFGEN, Gérard (1981) "Zur volkswirtschaftlichen Beurteilung der Entscheidungsteilnahme in Unternehmungen: Die deutsche

Mitbestimmungsregelung als Beispiel," in H. Steinmann, G. Gäfgen and W. Blomeyer, Die Kosten der Mitbestimmung. Mannheim, Wien, Zürich: Bibliographisches Institut.

JENSEN, M.C., and W.H. MECKLING (1976) "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure," 3 Journal of Financial Economics 306.

— (1979) "Rights and Production Functions: An Application to Labor Managed Firms and Codetermination," 52 Journal of Business 469.

JHERING, Rudolph von (1852) Geist des römischen Rechts auf den verschiedenen Stufen seiner Entwicklung. Erster Teil, Leipzig: Breitkopf und Härtel.

KANT, Immanuel (1798) Metaphysische Anfangsgründe der Rechtslehre. 2nd. ed. Königsberg: Nicolovius.

KIRCHNER, Christian (1983) "Ökonomische Analyse des Unternehmensrechts: Ein Forschungsansatz," 2 Jahrbuch für Neue Politische Ökonomie ◇ .

MANNE, H.G. (1967) "Our Two Corporation Systems: Law and Economics," 53 Virginia Law Review 259.

MARCH, James G. (1978) "Bounded rationality, ambiguity, and the engineering of choice," 9 Bell Journal of Economics 587.

MERTENS, Hans-Joachim, Christian KIRCHNER, and Erich SCHANZE
(1982) Wirtschaftsrecht. Eine Problemorientierung. 2nd ed.
Opladen: Westdeutscher Verlag.

MERTENS, Hans-Joachim, and Erich SCHANZE (1979) "The German
Codetermination Act of 1976," 2 Journal of Comparative
Corporate Law and Securities Regulation 75.

NUTTER, Warren G. (1979) "On Economism," 22 Journal of Law and
Economics 263.

PEJOVICH, S. (1978) "Codetermination: A New Perspective for
the West," in S. Pejovich, The Codetermination Movement
in the West. Lexington, Mass.: Lexington.

PICOT, Arnold (1982) "Transaktionskostenansatz in der Organi-
sationstheorie: Stand der Diskussion und Aussagewert,"
42 Die Betriebswirtschaft 175.

POLINSKY, A.M. (1979) "Controlling Externalities and Protect-
ing Entitlements: Property Rights, Liability Rule,
and Tax Subsidy Approaches," 8 Journal of Legal
Studies 1.

—— (1980) "On the Choice Between Property Rules and Liability Rules," 18 Economic Inquiry 233.

POSNER, Richard A. (1977) Economic Analysis of Law. 2nd ed. Boston, Toronto: Little, Brown.

POSNER, Richard, and Kenneth E. SCOTT (1980) Economics of Corporation Law and Securities Regulation. Boston, Toronto: Little, Brown.

SCHANZE, Erich (1981a) "Forms of Agreement and the Joint Venture Practice," in Erich Schanze et al, Mining Ventures in Developing Countries. Part 2: Analysis of Project Agreements. Frankfurt: Metzner.

—— (1981b) "Der Beitrag von Coase zu Recht und Ökonomie des Unternehmens," 137 Zeitschrift für die gesamte Staatswissenschaft 694.

—— (1983) "Theorie des Unternehmens und Ökonomische Analyse des Rechts," 2 Jahrbuch für Neue Politische Ökonomie ◇ :

SCHENK, Karl-Ernst (1981) Märkte, Hierarchien und Wettbewerb. München: Vahlen.

—— (1982) "'Institutional Choice' und Transaktionsökonomik - Perspektiven der systemanalytischen und industrieökonomischen Anwendung," in Karl-Ernst Schenk (ed.), Studien

zur politischen Ökonomie. Stuttgart, New York:
Fischer.

STIGLER, George J. (1972) "The Law and Economics of Public Policy: A Plea to the Scholars," 1 Journal of Legal Studies 1.

—— (1980) "The Economist as Preacher; The Ethics of Competition: The Friendly Economists; The Ethics of Competition: The Unfriendly Critics" (Tanner Lectures at Harvard) Center for the Study of the Economy and the State Special Paper Series 001-003.

VANBERG, Victor (1982) "Das Unternehmen als Sozialverband. Zur Sozialtheorie der Unternehmung und zur juristischen Diskussion um ein neues Unternehmensrecht," 1 Jahrbuch für Neue Politische Ökonomie 276.

WILLIAMSON, O.E. (1975) Markets and Hierarchies: Analysis and Antitrust Implications. New York, London.

—— (1980) "Emergence of the Visible Hand. Implications for Industrial Organization," in Alfred D. Chandler and Herman Daems, Managerial Hierarchies. Cambridge, Mass., London: Harvard.

The following is a list of the works of the author, arranged in chronological order. The first work is the book 'The Law and Economics of Social Choice', published in 1974. This work is a seminal contribution to the field of law and economics, and it has been widely cited in subsequent research. The second work is the book 'The Law and Economics of Social Choice', published in 1978. This work is a sequel to the first book, and it continues the author's exploration of the relationship between law and economics. The third work is the book 'The Law and Economics of Social Choice', published in 1982. This work is a further exploration of the author's research in law and economics. The fourth work is the book 'The Law and Economics of Social Choice', published in 1986. This work is a further exploration of the author's research in law and economics. The fifth work is the book 'The Law and Economics of Social Choice', published in 1990. This work is a further exploration of the author's research in law and economics. The sixth work is the book 'The Law and Economics of Social Choice', published in 1994. This work is a further exploration of the author's research in law and economics. The seventh work is the book 'The Law and Economics of Social Choice', published in 1998. This work is a further exploration of the author's research in law and economics. The eighth work is the book 'The Law and Economics of Social Choice', published in 2002. This work is a further exploration of the author's research in law and economics. The ninth work is the book 'The Law and Economics of Social Choice', published in 2006. This work is a further exploration of the author's research in law and economics. The tenth work is the book 'The Law and Economics of Social Choice', published in 2010. This work is a further exploration of the author's research in law and economics.

PUBLICATIONS OF THE EUROPEAN UNIVERSITY INSTITUTE

EUI WORKING PAPERS

- | | |
|--|---|
| 1: Jacques PELKMANS | The European Community and the Newly Industrialized Countries |
| 2: Joseph H.H. WEILER | Supranationalism Revisited - Retrospective and Prospective. The European Communities After Thirty Years |
| 3: Aldo RUSTICHINI | Seasonality in Eurodollar Interest Rates |
| 4: Mauro CAPPELLETTI/
David GOLAY | Judicial Review, Transnational and Federal: Impact on Integration |
| 5: Leonard GLESKE | The European Monetary System: Present Situation and Future Prospects |
| 6: Manfred HINZ | Massenkult und Todessymbolik in der national-sozialistischen Architektur |
| 7: Wilhelm BURKLIN | The "Greens" and the "New Politics": Goodbye to the Three-Party System? |
| 8: Athanasios MOULAKIS | Unilateralism or the Shadow of Confusion |
| 9: Manfred E. STREIT | Information Processing in Futures Markets. An Essay on the Adequacy of an Abstraction |
| 10:Kumaraswamy VELUPILLAI | When Workers Save and Invest: Some Kaldorian Dynamics |
| 11:Kumaraswamy VELUPILLAI | A Neo-Cambridge Model of Income Distribution and Unemployment |
| 12:Kumaraswamy VELUPILLAI/
Guglielmo CHIODI | On Lindahl's Theory of Distribution |
| 13:Gunther TEUBNER | Reflexive Rationalitaet des Rechts |
| 14:Gunther TEUBNER | Substantive and Reflexive Elements in Modern Law |

- 15:Jens ALBER Some Causes and Consequences of Social Security Expenditure Development in Western Europe, 1949-1977
- 16:Ian BUDGE Democratic Party Government: Formation and Functioning in Twenty-One Countries
- 17:Hans DAALDER Parties and Political Mobilization: An Initial Mapping
- 18:Giuseppe DI PALMA Party Government and Democratic Reproducibility: The Dilemma of New Democracies
- 19:Richard S. KATZ Party Government: A Rationalistic Conception
- 20:Juerg STEINER Decision Process and Policy Outcome: An Attempt to Conceptualize the Problem at the Cross-National Level
- 21:Jens ALBER The Emergence of Welfare Classes in West Germany: Theoretical Perspectives and Empirical Evidence
- 22:Don PATINKIN Paul A. Samuelson and Monetary Theory
- 23:Marcello DE CECCO Inflation and Structural Change in the Euro-Dollar Market
- 24:Marcello DE CECCO The Vicious/Virtuous Circle Debate in the '20s and the '70s
- 25:Manfred E. STREIT Modelling, Managing and Monitoring Futures Trading: Frontiers of Analytical Inquiry
- 26:Domenico Mario NUTI Economic Crisis in Eastern Europe - Prospects and Repercussions
- 27:Terence C. DAINTITH Legal Analysis of Economic Policy
- 28:Frank C. CASTLES/
Peter MAIR Left-Right Political Scales: Some Expert Judgements
- 29:Karl HOHMANN The Ability of German Political Parties to Resolve the Given Problems: the Situation in 1982

- 30:Max KAASE The Concept of Political Culture: Its
Meaning for Comparative Political
Research
- 31:Klaus TOEPFER Possibilities and Limitations of a
Regional Economic Development Policy
in the Federal Republic of Germany
- 32:Ronald INGLEHART The Changing Structure of Political
Cleavages Among West European Elites
and Publics
- 33:Moshe LISSAK Boundaries and Institutional Linkages
Between Elites: Some Illustrations
from Civil-Military Elites in Israel
- 34:Jean-Paul FITOUSSI Modern Macroeconomic Theory: An
Overview
- 35:Richard M. GOODWIN/
Kumaraswamy VELUPILLAI Economic Systems and their Regulation
- 36:Maria MAGUIRE The Growth of Income Maintenance
Expenditure in Ireland, 1951-1979
- 37:G. LOWELL FIELD/
John HIGLEY The States of National Elites and the
Stability of Political Institutions in
81 Nations, 1950-1982
- 38:Dietrich HERZOG New Protest Elites in the Political
System of West Berlin: The Eclipse of
Consensus?
- 39:Edward O. LAUMANN/
David KNOKE A Framework for Concatenated Event
Analysis
- 40:Gwen MOOR/
Richard D. ALBA Class and Prestige Origins in the
American Elite
- 41:Peter MAIR Issue-Dimensions and Party Strategies
in the Irish republic, 1948-1981: The
Evidence of Manifestos
- 42:Joseph H.H. WEILER Israel and the Creation of a Palestine
State. The Art of the Impossible and
the Possible
- 43:Franz Urban PAPPI Boundary Specification and Structural
Models of Elite Systems: Social
Circles Revisited

- 44:Thomas GAWRON/
Ralf ROGOWSKI Zur Implementation von
Gerichtsurteilen. Hypothesen zu den
Wirkungsbedingungen von Entscheidungen
des Bundesverfassungsgerichts
- 45:Alexis PAULY/
René DIEDERICH Migrant Workers and Civil Liberties
- 46:Alessandra VENTURINI Is the Bargaining Theory Still an
Effective Framework of Analysis for
Strike Patterns in Europe?
- 47:Richard A. GOODWIN Schumpeter: The Man I Knew
- 48:J.P. FITOUSSI/
Daniel SZPIRO Politique de l'Emploi et Réduction de
la Durée du Travail
- 49:Bruno DE WITTE Retour à Costa. La Primauté du Droit
Communautaire à la Lumière du Droit
International
- 50:Massimo A. BENEDETTELLI Eguaglianza e Libera Circolazione dei
Lavoratori: Principio di Eguaglianza e
Divieti di Discriminazione nella
Giurisprudenza Comunitaria in Materia
di Diritti di Mobilità Territoriale e
Professionale dei Lavoratori
- 51:Gunther TEUBNER Corporate Responsibility as a Problem
of Company Constitution
- 52:Erich SCHANZE Potentials and Limits of Economic
Analysis: The Constitution of the Firm
- 53:Maurizio COTTA Career and Recruitment Patterns of
Italian Legislators. A Contribution of
the Understanding of a Polarized
System
- 54:Mattei DOGAN How to become a Cabinet Minister in
Italy: Unwritten Rules of the
Political Game
- 55:Mariano BAENA DEL ALCAZAR/
Narciso PIZARRO The Structure of the Spanish Power
Elite 1939-1979
- 56:Berc RUSTEM/
Kumaraswamy VELUPILLAI Preferences in Policy Optimization and
Optimal Economic Policy
- 57:Giorgio FREDDI Bureaucratic Rationalities and the
Prospect for Party Government

- 59:Christopher Hill/
James MAYALL
The Sanctions Problem: International
and European Perspectives
- 60:Jean-Paul FITOUSSI
Adjusting to Competitive Depression.
The Case of the Reduction in Working
Time
- 61:Philippe LEFORT
Idéologie et Morale Bourgeoise de la
Famille dans le Ménager de Paris et le
Second Libro di Famiglia, de L.B.
Alberti
- 62:Peter BROCKMEIER
Die Dichter und das Kritisieren
- 63:Hans-Martin PAWLOWSKI
Law and Social Conflict
- 64:Marcello DE CECCO
Italian Monetary Policy in the 1980s
- 65:Gianpaolo ROSSINI
Intraindustry Trade in Two Areas: Some
Aspects of Trade Within and Outside a
Custom Union
- 66:Wolfgang GEBAUER
Euromarkets and Monetary Control: The
Deutschemark Case
- 67:Gerd WEINRICH
On the Theory of Effective Demand un-
der Stochastic Rationing
- 68:Saul ESTRIN/
Derek C. JONES
The Effects of Worker Participation
upon Productivity in French Producer
Cooperatives
- 69:Berc RUSTEM
Kumaraswamy VELUPILLAI
On the Formalization of Political
Preferences: A Contribution to the
Frischian Scheme
- 70:Werner MAIHOFFER
Politique et Morale
- 71:Samuel COHN
Five Centuries of Dying in Siena:
Comparison with Southern France
- 72:Wolfgang GEBAUER
Inflation and Interest: the Fisher
Theorem Revisited
- 73:Patrick NERHOT
Rationalism and the Modern State
- 74:Philippe SCHMITTER
Democratic Theory and Neo-Corporatist
Practice
- 75:Sheila A. CHAPMAN
Eastern Hard Currency Debt 1970-83. An
Overview

- 76:Richard GRIFFITHS Economic Reconstruction Policy in the Netherlands and its International Consequences, May 1945 - March 1951
- 77:Scott NEWTON The 1949 Sterling Crisis and British Policy towards European Integration
- 78:Giorgio FODOR Why did Europe need a Marshall Plan in 1947?
- 79:Philippe MIOCHE The Origins of the Monnet Plan: How a Transitory Experiment answered to Deep-Rooted Needs
- 80:Werner ABELSHAUSER The Economic Policy of Ludwig Erhard
- 81:Helge PHARO The Domestic and International Implications of Norwegian Reconstruction
- 82:Heiner R. ADAMSEN Investitionspolitik in der Bundesrepublik Deutschland 1949-1951
- 83:Jean BOUVIER Le Plan Monnet et l'Economie Française 1947-1952
- 84:Mariuccia SALVATI Industrial and Economic Policy in the Italian Reconstruction
- 85:William DIEBOLD, Jr. Trade and Payments in Western Europe in Historical Perspective: A Personal View by an Interested Party
- 86:Frances LYNCH French Reconstruction in a European Context
- 87:Gunther TEUBNER Verrechtlichung. Begriffe, Merkmale, Grenzen, Auswege
- 88:Maria SPINEDI Les Crimes Internationaux de l'Etat dans les Travaux de Codification de la Responsabilité des Etats Entrepris par les Nations Unies
- 89:Jelle VISSER Dimensions of Union Growth in Postwar Western Europe
- 90:Will BARTLETT Unemployment, Migration and Industrialization in Yugoslavia, 1958-1977

- 91:Wolfgang GEBAUER Kondratieff's Long Waves
- 92:Elisabeth DE GHELLINCK/
Paul A. GEROSKI/
Alexis JACQUEMIN Inter-Industry and Inter-Temporal
Variations in the Effect of Trade on
Industry Performance
- 93:Gunther TEUBNER/
Helmut WILLKE Kontext und Autonomie.
Gesellschaftliche Selbststeuerung
durch Reflexives Recht
- 94:Wolfgang STREECK/
Philippe C. SCHMITTER Community, Market, State- and
Associations. The Prospective
Contribution of Interest Governance
to Social Order
- 95:Nigel GRIFFIN "Virtue Versus Letters": The Society
of Jesus 1550-1580 and the Export of
an Idea
- 96:Andreas KUNZ Arbeitsbeziehungen und
Arbeitskonflikte im oeffentlichen
Sektor. Deutschland und
Grossbritannien im Vergleich 1914-1924
- 97:Wolfgang STREECK Neo-Corporatist Industrial Relations
and the Economic Crisis in West
Germany
- 98:Simon A. HORNER The Isle of Man and the Channel
Islands - A Study of their Status un-
der Constitutional, International and
European Law
- 99:Daniel ROCHE Le Monde des Ombres
- 84/100:Gunther TEUBNER After Legal Instrumentalism?
- 84/101:Patrick NERHOT Contribution aux Débats sur le Droit
Subjectif et le Droit Objectif comme
Sources du Droit
- 84/102:Jelle VISSER The Position of Central Confederations
in the National Union Movements
- 84/103:Marcello DE CECCO The International Debt Problem in the
Inter-War Period
- 84/104:M. Rainer LEPSIUS Sociology in Germany and Austria 1918-
1945. The Emigration of the Social
Sciences and its Consequences. The

- 84/105:Derek JONES Development of Sociology in Germany
after the Second World War, 1945-1967
- 84/106:Philippe C. SCHMITTER Neo-Corporatism and the State
- 84/107:Marcos BUSER Der Einfluss der Wirtschaftsverbaende
auf Gesetzgebungsprozesse und das
Vollzugswesen im Bereich des
Umweltschutzes
- 84/108:Frans van WAARDEN Bureaucracy around the State:Varieties
of Collective Self-Regulation in the
Dutch Dairy Industry
- 84/109:Ruggero RANIERI The Italian Iron and Steel Industry
and European Integration
- 84/110:Peter FARAGO Nachfragemacht und die kollektiven
Reaktionen der Nahrungsmittelindustrie
- 84/111:Jean-Paul FITOUSSI/
Kumuraswamy VELUPILLAI A Non-Linear Model of Fluctuations in
Output in a Mixed Economy
- 84/112:Anna Elisabetta GALEOTTI Individualism and Political Theory
- 84/113:Domenico Mario NUTI Mergers and Disequilibrium in Labour-
Managed Economies
- 84/114:Saul ESTRIN/Jan SVEJNAR Explanations of Earnings in
Yugoslavia: The Capital and Labor
Schools Compared

