

1992-34

ET Faculteit der Economische Wetenschappen en Econometrie

05348

Serie Research Memoranda

Transaction Regimes: An Instrument for Research in Industrial Organization

Peter Knorringa & Henk Kox

Research-Memorandum 1992-34
October 1992



Faculteit der Economische Wetenschappen en Econometrie

Serie Research Memoranda

Transaction Regimes:

An Instrument for Research in Industrial Organization

Peter Knorringa & Henk Kox

**Research Memorandum 1992-34
October 1992**

TRANSACTION REGIMES:

AN INSTRUMENT FOR RESEARCH IN INDUSTRIAL ORGANIZATION

Peter Knorringa & Henk Kox *

TABLE OF CONTENTS

Summary	2
1. Introduction	3
2. Limitations of the 'market versus hierarchy' dichotomy	4
3. The concept of transaction regimes	7
4. Five main transaction regimes of capitalist economies	9
5. Contours of a 'non-fitting' allocation mechanism	17
6. Conclusion	20
References	21

* Both authors work on industrial networks at the Department of Development Economics, tel. (0)20-5487079 / (0)20-5484630. Peter Knorringa is also associated to the Faculty of Environmental Sciences, University of Amsterdam.

Summary

The 'market versus hierarchy' dichotomy frequently appears in modern theory on industrial organization and the theory of the firm. This dichotomy approach can be criticized for its rigidity and for being too abstract for implementation in empirical research. To overcome these limitations we introduce the concept of transaction regimes. This concept allows for the synthesis of prior insights with 'non-fitting' empirical evidence. The paper characterizes and compares five archetypical transaction regimes in capitalist market economies. In two of these transaction regimes the transaction relations are to an important extent governed by cooperative patterns, supported by the development of mutual trust. Such voluntary cooperation should be considered as a third basic allocation mechanism, apart from market and hierarchy.



1. Introduction

In publications on transaction costs and property rights - sometimes grouped together as the 'New Institutional Economics' - one frequently encounters the use of the 'market' versus 'hierarchy' dichotomy. Critiques of this dichotomy approach mainly stressed its rigidity, since it implies that all forms of economic organization can be reduced to either market or hierarchy. It has been argued that long-term voluntary co-operation patterns, both among and within firms, do not fit well in the dichotomy. A second weak spot of the dichotomy approach is of a very different nature, and has, surprisingly, attracted much less discussion as yet. The level of abstraction of the concepts 'market' and 'hierarchy' is so high that operationalization becomes a major stumbling block. An embarrassing gap remains between market and hierarchy as abstract allocation principles on the one hand, and real-life economic organization patterns, on the other hand. Therefore, the trap of misplaced concreteness is constantly lurking below the surface of the dichotomy discussion. As a way out we introduce the concept of transaction regimes to allow for a more diverse set of economic organization patterns than merely two.

The paper is organized in five sections. The second section deals with the limitations of the 'market versus hierarchy' dichotomy that characterizes much of the so-called New Institutional Economics literature. In the third section the concept of transaction regimes is defined, and its constituting elements are briefly sketched. Due to the diversity of institutional transaction contexts, several archetypical transaction regimes can be distinguished. In the fourth section the concept is made more tangible by comparing a number of transaction regimes that frequently co-exist in capitalist market economies. On the basis of this comparison the fifth section re-interprets the discussion on the market - hierarchy dichotomy, and discerns the contours of a third allocation mechanism: co-operation. A concluding section completes the paper.

2. Limitations of the 'market versus hierarchy' dichotomy

The 'market versus hierarchy' dichotomy has become an important issue in institutional economics, in the theory of the firm, and in parts of industrial organization theory.¹ By confronting market and hierarchy as two fundamentally opposed allocation mechanisms, a research agenda arose in which it was tried to specify the theoretic conditions under which either of these mechanisms would be preferred. This led to valuable insights and applications of the so-called 'transaction cost economics' (cf. Williamson 1989). There is, however, growing criticism on the limitations of the dichotomy approach. A first objection is of a theoretical nature and concerns the exclusivity of the dichotomy. Why should all economic organization patterns ultimately be reducible to only two basic allocation mechanisms?² Several alternative allocation mechanisms have been mentioned in the literature.

Arrow (1969) distinguishes market allocation and hierarchy, but also mentions *collective action by social norms* and *mutual agreement* as other forms of non-market allocation mechanism. He considers the latter as unstable, costly and inflexible. According to Kornai (1989, p.1-20) all economic micro-processes are coordinated by only four basic allocation mechanisms, or combinations of them. Apart from market and hierarchy he mentions *aggressive coordination* and *ethical coordination*. The main difference between *aggressive coordination* and hierarchy is that the former is established by willful force, and not institutionalised by law or morality. As a consequence it is mostly not lasting. *Ethical coordination* bears a clear resemblance to Arrow's *collective action by social norms*. It also presupposes a non-hierarchic and voluntary relation between transaction partners. According to Kornai, it may be based on reciprocity, on the expectation of mutual help, or on one-sided altruism. For

¹ It dates back to the contributions of Coase (1937), Simon (1950; 1959), and Arrow (1969). From another angle - the confrontation of the decentralised decision making process under capitalist market conditions versus centralised (hierarchic) economic decision making under socialist planning conditions - an important contribution was presented by Von Hayek (1945). More recently, Williamson's publications (1975; 1985) formed important benchmarks in this discussion.

² Schreuder (1990) points at some inconsistencies in Williamson's work which can be traced back to the latter's uneasiness in applying a strict dichotomy.

lasting prevalence of ethical coordination it should be fixed by custom, tradition and by morally obligatory norms, including religion. Though one could object that ethical coordination is rather a heterogeneous collection of allocation mechanisms than a consistent single system of economic coordination, it is nevertheless clear that it is of a non-market and non-bureaucratic type. Several recent contributions to economic literature search for the theoretical contours of allocation mechanisms based on co-operation and mutual trust. Zukin & DiMaggio, Best and Powell all conclude that within the old dichotomy it is not possible to deal satisfactorily with co-operation among firms in networks in which repetitive transactions, leading to trust relations, take place.³ This point will be elaborated on in Section 5 of this paper. For now, it is enough to conclude that the exclusivity of the two extremes of the market versus hierarchy dichotomy is increasingly considered as too limiting.

A second limitation of the dichotomy approach concerns its applicability in empirical research. Empirical research inspired by the market versus hierarchy approach is hampered by an identification problem caused by two related factors. Firstly, empirical exchange transactions may be characterized by elements of both allocation principles at the same time. Extensive research has shown that markets and hierarchies are not mutually exclusive in practice, but that they are often intertwined, both within and among firms.⁴ Secondly, everyday economic practice is characterized by complex organizational and allocative patterns that only bear a hazy relation to both fundamental allocation mechanisms. At the abstract dichotomy level, neither 'market' nor 'hierarchy' can be equated with actual organizational forms. Treating them as such would lead into the trap of misplaced concreteness. By an historical abstraction process both extremes of market versus hierarchy dichotomy became narrowly-defined theoretical concepts. This may be illustrated by a brief digression on the conceptual history of 'market allocation'. At an

³ In their book on the New Institutional Economics, Zukin & DiMaggio suggest that given the inability of the concepts of market and hierarchy to capture the (frequent) occurrence of ongoing relationships of trust and mutual dependency, there is "...a need for a third ideal-type decision structure, based on informal social relations, parallel to markets and firms" (Zukin & DiMaggio 1990, p.9). Best (1990) and Powell (1989) argue that the dichotomy cannot capture the complexities of competition and institutional dynamics in real life economic exchange. Several articles collected in Thompson et al. (1991) come to the same conclusion.

⁴ See: Bradach & Eccles (1989), Williamson (1985, p.83-84; Ch. 7,8,10,13;1991).

empirical level, markets are social institutions with rules and behavioural patterns which may widely differ. In the early days of economic theory this diversity problem was typically solved by selecting one particular type of market organization, mostly the stock market, or the market for precious metals. Subsequently this particular market was stylized to a model of what would become the reference type of market for further theorizing.⁵ Especially after the 'marginalist revolution' of the 1870s, the market is more and more seen as an abstract allocation mechanism for determining relative prices and allocation of goods, quite distinct from actual markets. Later on, even the historical roots of this abstraction process disappeared from economic textbooks. The gap between the functioning of actual markets and abstract microeconomic theory of market behaviour has become remarkably wide.⁶ The identification problem impedes empirical research on market functioning and firm behaviour.

In the case of hierarchical allocation there is also a wide diversity of actual forms of economic organization, ranging from Hayek's national planning by a centralist bureaucracy, to the Schumpeterian entrepreneur, and to the Chandler's large bureaucratic firm. The equation of hierarchical allocation with whichever of these organizational forms would be mistaken. The defining characteristics of allocation by hierarchy are much more abstract,⁷ so that it is not a readily available empirical concept.

The market versus hierarchy dichotomy has had its significance for the development of the theory of the firm and the theory of transaction cost economics, but has by now become an obstacle for further progress in this area. Conceptually, a large gap remains between the abstract principles of

⁵ This procedure is to be found in the writings of, for instance, Walras (1952, p.44-48), Jevons (1871, p.84-86) and Marshall (1898, p.403-404). Their selection criteria differ slightly. Walras and Jevons, who almost simultaneously proceed in a remarkably similar way, select their 'model markets' by the criterion market organisation and information availability to market parties.

⁶ A major modern textbook on industrial organisation illustrates this gap. In the introduction of his book Tirole states: "The notion of a market is by no means simple", but concludes this discussion with: "For the purpose of the present book, this empirical difficulty of defining a market will be ignored. It will be assumed that the market is well defined [...]". (Tirole 1988, p.12-13).

⁷ Usually these characteristics center around systematic administration, and progressive breaking down of complex tasks into specialized, carefully-ordered functions, which are (bureaucratically) coordinated by a fixed set of rules and a stratified authority structure. See: Frances et al. (1991, p.9-14).

organization (market or hierarchy), and real life economic interaction patterns. To fill in this gap we propose an intermediary concept: *transaction regimes*. Although it is still an abstract concept, transaction regimes possess the main elements of real forms of economic organization. The concept is flexible enough to describe many types of economic organization. It also gives full account to the fact that the history of mutual contacts between transaction partners has important implications for both price and transaction form.

3. The concept of transaction regimes

A transaction regime is defined as *a set of common characteristics of exchange transactions taking place in a specific institutional context*. Transaction regimes categorize arrays of individual transactions according to the commonality of their institutional context and the way transactions are reached and implemented. Although the concept is less abstract than the allocation principles of 'market versus hierarchy', a transaction regime is still a theoretical concept. It abstracts from detailed, every-day transaction procedures and also transcends the level of pure market analysis.

Exchange transactions have six main phases. First, transaction partners encounter each other from their specific historical and social background. Second, information with regard to the potential transaction is exchanged. The main element in each transaction concerns settling the specific exchange proportions. Furthermore, and especially when the transaction involves some future entitlements, they implicitly or explicitly agree on a number of supporting exchange conditions, primarily aimed at dealing with opportunism. Fifth, the deal is completed in a particular juridical or non-juridical transaction form. Finally, transaction partners conclude the transaction with some (or no) prospects for future transactions. In line with these phases each transaction regime can be characterized by six elements:

(a) the mutual relations (status) of transaction partners. Transaction partners meet each other in a social and historical context. This institutional embeddedness of the transaction partners determines why they meet, how

they meet and what their mutual status is. This element includes the juridical relation between partners, the authority relations, and the degree of mutual familiarity.

(b) the form and content of pre-transaction information transfer. Before an exchange transaction can be concluded, potential partners exchange information on their supply possibilities and their demand preferences with regard to the transaction object. Important aspects of this element are the form of inter-partner information transfer and the way in which the specifications of the transaction object are determined.

(c) agreement and expression of the exchange proportions. The prime part of the transaction concerns the establishment of the reciprocity relations: what is given for what (barter, money, future entitlements), in what quantities (exchange proportions, relative price), and by which decision criteria. Under capitalist conditions the exchange proportions are expressed either by an arms' length market price or by an (intra-company) transfer price.

(d) dealing with opportunism. Apart from the direct exchange proportions a number of supporting conditions are implicitly or explicitly agreed upon. The supporting conditions aim to prevent or penalize opportunistic behaviour after the transaction agreement. Opportunistic behaviour may have different causes, can have different forms, so that also the arrangements to limit opportunistic behaviour will differ between transaction regimes.

(e) characteristics of the transaction form. The transaction is concluded in a particular form (written, unwritten) which may or may not have a juridical status vis-à-vis the external world. If a transaction form is chosen that refers to a commonly-accepted set of private rules or laws, this means that some supporting transaction conditions (cf. point *d*) automatically become operative, so that no specific agreement is required on these points.

(f) potential future of the transaction. Finally, and that relates again to the first element, the transaction is influenced by the prospects of repetition. In turn, this will certainly influence the arrangements of elements *d*) and *e*).

The number of transactions regimes is a function of the number of variations in institutional preconditions under which exchange relations take place. Leaving minor differences in institutional preconditions unconsidered, the diversity of transaction regimes can be reduced to a limited number of archetypical species. A first broad classification would be to distinguish centrally planned economies, feudal economies, capitalist market economies, non-monetized exchange and entitlement systems. Within each of these clusters of transaction regimes a spectrum of varieties exists which can also be ordered in a number of groups which share some common traits.⁸

4. Five main transaction regimes of capitalist economies

In this paper we will focus on capitalist economies. Capitalist market economies are characterized by the existence of production for market exchange, private ownership of means of production, the existence of a market for labour power, and predominance of hierarchic labour relations. Our focus will be on transactions in goods and non-factor services. Labour market transactions, due to their peculiar nature⁹ will be left unconsidered here.

The capitalist market economy, in which transactions share the aforementioned traits, is a cluster of regimes rather than a single transaction regime. We will compare five archetypical, non-mixed transaction regimes

⁸ Several regimes show mixed transaction characteristics like that of co-operative production units, and that of unincorporated companies, often characterizing small enterprises. The 'unincorporated sector' transaction regime often prevails in small-scale enterprises in agriculture, retail sales and services. It is characterized by a strongly interwoven pattern of transactions which exists between the 'corporate part' and the 'household part' in the sphere of allocation of labour, savings, and accumulation. These transactions and entitlement exchanges are only partly monetized or formalized in enforceable juridical forms. The pre-transaction information flow is very direct. Internal ownership transfer is not involved generally, but the matter can be complicated by inheritance and marriage conventions.

⁹ Capitalist labour relations are characterized by the fact that all agents own their own labour power, and that it is possible for some agents to hire and fire the labour power of other agents. The typical capitalist firm is characterized by the fact that the firm does not have any property rights over the worker and the human capital embodied in him, and the worker in turn does not have any property rights in the firm and/or his job, while he has only ill-defined property rights with regard to the human capital built up during the performance of his job. From these characteristics follow a number of peculiarities with regard to the labour power transaction. See: Pagano (1991); Marglin (1974).

which frequently co-exist in the private sector of capitalist market economies. The first three of them regard inter-company relations, the last two concern intra-company relations:

- * the *auction* regime, characterized by spot transactions, market clearing, price taking and anonymity of transaction partners.
- * the *dependent subcontracting* regime, an insecure, asymmetrical but possibly long-term relationship.
- * the *industrial district* regime, geographical concentrations of (often small) firms with recurrent co-operative and consultative links.
- * the *clan* regime or intra-company co-operation regime, characterized by frequent mutual consultations and goal congruence within the firm.
- * the *direct control* regime, characterized by hierarchical decision structures.

Table 1 gives a matrix presentation in which the five non-mixed regimes are compared by giving their 'scores' on the six main elements of exchange transactions. The scores in the table are 'binarized', i.e. in each cells of the matrix, a 'yes' is coded as (1) and a 'no' as (0). Based on the table, the five transaction regimes will each be briefly discussed below.

The Auction transaction regime

The auction is a particular form of market organization. We will use the auction transaction regime as an allegory for a broad category of market transactions with some common traits. Although several auction types exist, with varying rules (e.g. Smith 1989), auctions have some elements in common. The exchange object is a given or standardized object on which information is widely available. Transaction partners are to a large extent anonymous to each other. They meet in principle once-only, without history and future transaction prospects, to buy or sell a given object. Their preferences (willingness-to-sell, willingness-to-pay) are implicitly shown in their price bidding behaviour. Price bidding is the main element of their bargaining. Since the transaction partners are unrelated, they are maximally inclined to shift from one transaction partner to another when this would offer them a

Table 1. Comparative characteristics of five main capitalist transaction regimes

TRANSACTION REGIMES	INTER-COMPANY			INTRA-COMPANY		
	AUC-TION	SUB-CONTR.	IND. DISTR.	CLAN	DIRECT CONTROL	
A. MUTUAL RELATIONS TRANSACTION PARTNERS						
A1. Juridical status of partners:						
A11. related by common ownership	0	0	0	1	1	A11
A12. formal freedom to trade with third parties	1	1	1	0	0	A12
A2. Authority relation between partners:						
A21. non-hierarchical	1	0	1	0	0	A21
A22. hierarchical due to informal power asymmetry	0	1	0	0	0	A22
A23. hierarchical due to formal ownership	0	0	0	1	1	A23
A3. Partner familiarity:						
A31. no familiarity	1	0	0	0	0	A31
A32. prior knowledge of partner	0	1	1	1	1	A32
A33. familiarity and mutual trust	0	0	1	1	0	A33
B. PRE-TRANSACTION INFORMATION TRANSFER						
B1. Supply information targeted to broad audience	1	0	1	0	0	B1
B2. Demand information transferred by:						
B21. price offer (willingness-to-pay)	1	1	0	0	0	B21
B22. asking around, tendering	0	0	1	1	0	B22
B23. unilateral command/order	0	1	0	0	1	B23
B3. Product specification determined by:						
B31. producer only (standard product)	1	0	0	0	0	B31
B32. buyer only	0	1	0	0	0	B32
B33. mutual consultation between partners	0	0	1	1	0	B33
B34. hierarchic decision	0	0	0	1	1	B34
C. SETTLING EXCHANGE PROPORTIONS						
C1. Exchange proportions expressed as:						
C11. Arm's length price	1	1	1	0	0	C11
C12. Transfer price	0	0	0	1	1	C12
C2. Exchange proportions determined by:						
C21. Market conditions	1	1	1	0	0	C21
C22. Power relations between partners	0	1	0	0	1	C22
C23. Long-term mutual interest	0	0	1	1	0	C23
C24. Internal consensus	0	0	0	1	0	C24
D. DEALING WITH OPPORTUNISM						
D1. Opportunism threat arising from:						
D11. Anonymity	1	0	0	0	0	D11
D12. Asset specificity	0	1	1	0	0	D12
D13. Goal incongruence	0	1	0	0	1	D13
D14. Lacking ex ante performance standards	0	0	1	1	0	D14
D2. Dominant forms of potential opportunism:						
D21. Distorted / incomplete ex ante information	1	0	0	0	0	D21
D22. Hold-up	0	1	1	0	0	D22
D23. Moral hazard	0	1	1	1	1	D23
D3. Opportunism checked by:						
D31. Detailed contract	1	0	0	0	0	D31
D32. Asymmetric hold-up threat	0	1	0	0	0	D32
D33. Symmetric hold-up threat	0	0	1	0	0	D33
D34. Thorough mutual familiarity (repeated game)	0	0	1	1	0	D34
D35. Authority (detailed order)	0	0	0	0	1	D35
E. TRANSACTION FORM						
E1. Transaction has juridical contract status	1	1	1	0	0	E1
F. TRANSACTION FUTURE						
F1. Repetition prospects of transaction:						
F11. Not envisaged	1	0	0	0	0	F11
F12. A priori uncertain	0	1	0	0	0	F12
F13. Mutually envisaged	0	0	1	0	0	F13
F14. Infinite (open-ended)	0	0	0	1	1	F14

better bargain.¹⁰ This maximum of ex ante opportunism implies that any auction transaction which would involve future commitments or entitlements, will be specified in detailed contracts in order to preclude opportunist escapes as much as possible. Due to the fact that the degree of ex ante opportunism is so high, and that transaction costs of making detailed contracts are generally very high, most auction transactions are 'on the spot' deals.

The Dependent Subcontracting transaction regime

The dependent subcontracting regime deals with transactions between formally independent firms, each representing a separate ownership entity. Especially the subcontractor is often 'tied' into the relation, and lacks the full freedom to transact with other parties. On the other hand, the outsourcing company can easily switch between suppliers. The most distinctive characteristic is a difference in bargaining power between transaction parties, resulting in an authority relation without a formal hierarchy. The outsourcing company is the leading transaction partner. Goal incongruence is high, but factual behaviour is as if goal incongruence is low due to the difference in bargaining power. To achieve a long term relationship with his customer the subcontractor has to invest by performing more than minimally agreed. His investment is not necessarily reciprocated, and the relationship can easily be broken by the buyer. A dependent subcontracting regime has no automatic renewal of contracts. Performance ambiguity and monitoring costs are usually rather low. The subcontractor has limited options to opportunistic behaviour, and runs a high risk of expulsion when his opportunistic behaviour is discovered.

Pre-transaction information by the buyer is transferred to a large number of potential subcontractors with equal technical qualifications. Subcontractors transfer information to a limited number of potential customers. Information on demand is obtained through unequal bargaining on orders. Product specifications are set by the buyer, without consultation. First an agreement is struck, then production takes place. Exchange proportions are settled

¹⁰ As Jevons phrases it: "Every individual must be considered as exchanging from a pure regard to his own requirements or private interests, and there must be perfectly free competition, so that any one will exchange with anyone else for the slightest apparent advantage" (Jevons 1871, p.86).

according to a combination of supply and demand conditions and patron-client relationships. Power differences between partners influence the outcome in the sense that the powerful pushes the powerless, as far as norms and values of reciprocity allow.

Subcontractors face a large opportunistic threat from buyers, a threat to which they have no real answer. The main opportunistic threat comes from asset specificity, resulting in a potential hold-up by buyers. This holds particularly for subcontractors who have invested in job-specific raw materials or equipment.

The Industrial District transaction regime¹¹

The industrial district transaction regime deals with transactions between independent firms that exchange ownership of products or services. Although these firms juridically have full freedom to search for transaction partners, the actual search for transaction partners is often restricted to the own geographical district. This is due to a thorough knowledge among the members of the district of each others reputation, resulting in (dis-)trust relations between specific parties. Goal incongruence is lower than in the auction regime because the actors realize that they are not only competitors, but that they also need to co-operate to be able to withstand competition from elsewhere. Pre-transaction information is targeted mainly within the district, and information on demand reaches firms through consultation by buyers, or through directly placed orders. Product specifications are determined through consultation between buyer and producer and production takes place after the agreement has been struck.

The exchange proportions are settled on the basis of a combination of supply and demand conditions ('the market') and the realization of a long term mutual interest ('co-operation'). The transaction is completed on real arms' length prices, and includes ownership exchange. Both parties involved in the transaction envisage the option of a long term relationship. A high performance ambiguity and rather high monitoring costs imply an

¹¹ Industrial districts were first described by Marshall (1919), writing about regional industrial clusters in England. More recently this line of analysis has been taken up by Italian researchers seeking for analytic tools to describe the succesful forms of local industrialization and industrial cooperation in some Italian regions. See: Becattini (1990); Brusco (1982); Pyke, Becattini & Sengenberger (1990); Best (1990, p.203-250).

opportunistic threat. This may stem from a threat of hold-up, i.e. unilaterally ending a transaction. A hold-up is especially damaging in case one transaction partner had to invest in specific assets. Opportunism may also result from moral hazard, i.e. sustaining information asymmetries by a strategic use of information (obfuscating, cheating, misleading). This hold-up threat is held in check by the fact that it is a symmetrical mutual hold-up. The moral hazard threat is checked by a process of socialization in the district, e.g. thorough knowledge of each others' situation, shared public goods (like apprenticeships, education). Also, local reputations regarding company capabilities and trustworthiness may play an important role in preventing opportunist behaviour.

The Clan transaction regime

The intra-company co-operation regime or - using the terminology of Ouchi (1980) - clan transaction regime refers to intra-company transactions between departments or plants of a single company.¹² The existence of a single ownership entity inherently creates an authority relation, but the latter operates in the background. Management instigates frequent use of intra-company consultative procedures, oriented at common problem solving. The goals of the leading partner, i.e. central management, become internalized, thereby decreasing goal incongruence. Frequent consultations and socialization result in a high degree of mutual familiarity and the development of mutual trust. Individual transactions form part of an open-ended, long-term relationship.

Information is spread within the firm only, on the basis of a combination of command and consultation. Product specifications are determined by consultation, but the ultimate decision is taken by the leading partner. The exchange proportions in intra-company transactions are based on long term mutual interest plus seeking internal consensus. Transfer prices are used, with no exchange of product ownership. There is an open ended number of transactions, with a mutually envisaged repetition. Performance ambiguity is usually very high, and thus the main opportunistic threat is one of moral hazard. This is checked by socialization (consultation procedures, partner

¹² Ouchi (1980) originally focussed on transactions between individuals, but we extend his analysis to transactions between departments of the same company.

familiarity, internal reputation) and the underlying authority relation, e.g. expressed by financial performance premiums.

The Direct Control transaction regime

The direct control transaction regime governs intra-company transactions in many large firms with a unified ownership. The ownership relation is translated into a hierarchical decision structure. The main decisions are taken at the highest ownership level, while lower-level organizational layers are granted the right to transact with each other according to well-defined routines and procedures.¹³ Transaction partners do not have full freedom to trade with third parties. In a vertically-integrated company structure they are typically condemned to each other. Bureaucratic routines rule pre-transaction information transfers. Horizontal transaction activities between departments and plants are configured by vertical authority structures. Exchange proportions are expressed in intra-company transfer prices, which may or may not reflect arms' length market prices. Opportunist behaviour will mainly result from goal incongruence between transaction partners, since each may follow his own department- or plant-specific goals. Moral hazard will be the dominant form of opportunist behaviour. Threats of opportunist behaviour are suppressed by bureaucratic orders and evaluation procedures. Transaction partners face the prospect of an infinite (open-ended) sequence of future transactions.

The five transaction regimes as forms of economic organization

The regime that comes closest to the 'pure' market allocation, according to the market versus hierarchy dichotomy, is the auction regime. It will arise especially when the transaction object (product) is standardized or well-defined, and performance ambiguity is low. Under such circumstances prices are appropriate information carriers. The transaction regime that comes most

¹³ Mintzberg (1989, p.100-101) catalogs six ways in which firms and other organizations can coordinate their work: mutual adjustment, direct supervision; standardization of work processes; standardization of outputs; standardizations of skills and knowledge (common training); setting of intra-organizational norms.

closely to the other extreme of the dichotomy is the direct control regime which governs the inter-departmental and inter-plant transactions within strictly hierarchic firms. The direct control regime most likely will arise when the transaction object (product) is standardized and well-defined, and the production process is complex, involving various inputs and many stages, in which economies of scale are important. Information between partners is transferred by bureaucratic routines and decision rules.¹⁴ Such commands are used to restrain opportunistic behaviour.

Transactions between and within companies may be governed by transactions regimes that essentially differ from the two regimes treated so far. The dependent subcontracting regime is characterized by formally independent firms which co-operate in a hierarchic framework with asymmetric power relations, with prices and 'outside' market conditions playing an important background role. This regime will especially flourish under conditions of segregated labour markets. Completely different is the industrial district regime. This exists where groups of interdependent firms of different size categories repeatedly interact and co-operate in a (local) network. Frequent consultations between these firms create co-operative patterns and a thorough familiarity between transaction partners. Industrial district regimes are particularly efficient under technological and market conditions where a high degree of flexibility and adaptive capacity is required, and where economies of scale are of minor importance for competitiveness. Examples can often be found in market segments with a high fashion content.

Finally, in the clan regime neither market nor hierarchic transaction procedures prevail. Frequent consultative procedures represent direct forms of pre-transaction information transfer. They lead to a thorough partner familiarity, goal congruence and co-operative patterns. Clan regimes are likely to be found under business conditions characterized by high levels of performance ambiguity, caused, for instance, by fast technological change or knowledge-intensive, non-standardized products. Hierarchical routine procedures or decision rules would be difficult to implement under such conditions.

¹⁴ "Whereas the activities of the single-unit traditional enterprises were monitored and coordinated by market mechanisms, the producing and distributing units within a modern business enterprise are monitored and coordinated by middle managers. Top managers, in addition to evaluating and coordinating the work of middle managers, took the place of the market in allocating resources for future production and distribution" (Chandler 1977, p.7).

At the end of this section it must again be stressed that the five transaction regimes which we propose, are still abstractions from economic reality. For instance, in any existing industrial district some firms are dependent subcontractors, while some larger companies in the district may manage various departments through either direct control or clan systems. Also on the level of a singled-out transaction between firm *A* and firm *B* elements of more than one transaction regime can be present.

5. Contours of a "non-fitting" allocation mechanism

In the previous section we discussed the various transaction regimes, based on the elements in Table 1. In this section we shall return to the higher level of abstraction of the allocation principles. But first an important insight is drawn from the operationalization of the transaction regimes, an insight with a bearing on the general discussion on market and hierarchy.

In two of the five transaction regimes, Clan and Industrial District, co-operative patterns play an important role in the allocation process. The growth of such co-operative patterns depends on the mutual recognition of interdependency by transaction partners. In the Industrial District regime this may result from technical interdependencies (specialisation within the production chain, asset specificity), or from the existence of an unstable business environment (volatile fashion-oriented markets, high pace of innovation, political instability). In the Clan transaction regime mutually recognized dependency results from the need to mobilize collective efforts oriented at quality improvement and innovation of product and production process. Since well-defined hierarchical evaluation instruments to measure such efforts are lacking, there is a high degree of ex ante performance ambiguity. Therefore, the required collective efforts will only arise through voluntary co-operation.

In Table 1, the matrix comparison of the five transaction regimes, the co-operation-oriented regimes can be shown to have a number of common characteristics, that are absent in both the auction and the direct control

transaction regime. Both co-operative transaction regimes share a distinctive common score on the following sub-elements :

- A21 Non-hierarchical relation between transaction partners;
- A33 Familiarity and mutual trust;
- B22 Pre-transaction information transfer by asking around;
- B33 Product specification determined by mutual consultation;
- C23 Exchange proportions (co-)determined by long term mutual interest;
- D14 Opportunism may arise from lacking ex ante performance standards;
- D34 Opportunism checked by mutual familiarity (repeated game).

Co-operation arises through frequent mutual consultation, a certain degree of goal congruence and repeated transactions. Opportunism is restrained by the development of mutual trust based on a thorough knowledge of each others situation and on the realization by specialists that they need each other. With anonymous transaction partners the critical issue is not that all actors behave opportunistically, but that it is very costly to find out who will and who will not behave opportunistically (Williamson & Ouchi 1981). The presence of mutual familiarity and trust enables conscious uninsured risk taking.¹⁵ Trust lowers the transaction costs as it increases the predictability of the others' behaviour, and lowers the need for contingent contracting. In a situation where entrepreneurs face uncertainties from outside their direct environment, the existence of co-operation patterns will lead to savings in time and contracting costs, and will therefore be comparatively efficient.¹⁶ Coming from another angle, the theory of repeated games and super games, in which players accept a long-run average pay-off, explains that co-operation develops among players, even irrespective of the initial presence or absence of trust (cf. Axelrod 1984; Mertens 1989).

To sum up, in co-operation-oriented transaction regimes opportunism is dealt

¹⁵ One of the few comprehensive treatments on the concept of trust can be found in Gambetta (1988).

¹⁶ It is difficult to understand why Williamson (1991) considers this type of cooperative bargaining among transaction partners as more time consuming than arranging for detailed contracts with contingency provisions. On the contrary, to quote Arrow, "[i]t is useful for individuals to have some trust in each other's word. In the absence of trust, it would become very costly to arrange for alternative sanctions and guarantees, and many opportunities for mutually beneficial cooperation would have to be foregone" (Arrow 1969, p.60).

with in a way which is essentially different from 'pure' market or hierarchical allocation. The basic point to be made is that the five transaction regimes cannot be reduced to two allocation principles on a higher level of analysis. The analysis of transaction regimes thus substantiates the assumption of a possible third allocation principle: voluntary co-operation. Therefore, one might perceive of three allocation principles: market, hierarchy and co-operation, controlled respectively through prices, authority and trust (See also: Bradach & Eccles 1989; Powell 1989).

This conclusion can also take us one step further in overcoming another drawback of the market versus hierarchy discussion: its obsession with competition. The discussion tends to focus too narrowly on large firms and their *make or buy* decisions, while horizontal forms of co-operation are predominantly seen as collusive, competition-limiting practices. Price competition tends to focus on cost-cutting and short-term allocative efficiency. For long-term industrial development of a subsector or an industrial region, however, it is also necessary to create the 'infrastructural' conditions for further growth: basic investments, technological development, developments of skills, and supporting institutions. Many of such basic conditions have the character of a public good: once they exist, they are available to all parties, without exclusivity. When, for whatever reason, the burden of creating these conditions cannot be shifted to a government, they can only come into existence through co-operation and burden-sharing. While competition can ensure that firms remain innovative and responsive to change, only co-operation can ensure long-term competitiveness through creating the necessary 'infrastructural' conditions. This is typically what happens in the Industrial District transaction regime. In the Clan regime the demand for co-operation arises from the need to achieve long-term competitiveness in innovative or quality-sensitive subsectors. Within a company the achievement of such a goal is to a certain extent a 'public good', given its effect on future job-security and salary conditions.

Several indications suggest that relations supplemented with trust, *ceteris paribus*, lead to better performance in the longer run and lower the threat of opportunistic behaviour. The success of Japanese and more recently Italian industrialization strategies has shown the importance of co-operation as a

complement to competition (cf. Best 1990; Pyke, Becattini & Sengenberger 1990). In his book on industrial restructuring Best (1990) claims that the basic reason for Japanese companies and 'The Third Italy' to outperform the large bureaucratic companies, based on Taylorist management and Fordist production methods, is that they have succeeded in finding a better balance between competition and co-operation. To get more grip on this balance we need to let go of a one-dimensional dichotomy approach, and include the concepts of co-operation and trust in our analysis, although we realise they are difficult to measure.

6. Conclusion

Discussion on the market versus hierarchy dichotomy, outlined by Coase and elaborated on by Williamson, was an important stage in the development of the theory of the firm, transaction costs theory and the theory of industrial organization. Sticking to the dichotomy would, however, block further progress, since it is too rigid and conceptually too far from real life economic interaction patterns. In line with other findings, the analysis of transaction regimes also indicates towards the existence of a possible third allocation mechanism: voluntary co-operation.

We introduced the concept of transaction regimes as an intermediary level of analysis which may contribute to a synthesis of prior insights and hitherto 'non-fitting' observations related to real-life economic organization patterns. Transaction regimes possess the main elements of real forms of economic organization, and give full account to the fact that the history of mutual contacts between transaction partners has important implications for both price and transaction form. In the paper we distinguish five non-mixed transaction regimes which frequently occur in capitalist market economies. Of course, other regimes could be added, like the characteristic regime for state companies and for collusive interaction by large firms (e.g. price leadership). We hope this conceptual study can help others (and ourselves) in operationalizing future case studies on organizational forms.

References

- Arrow, K. (1969) The organization of economic activity: issues pertinent to the choice of market versus nonmarket allocation. In: *Joint Economic Committee, United States Congress, The analysis and evaluation of public expenditures: the PPB System*, vol.1, GPO, Washington, pp. 47-64. (Reprinted in Arrow's collected works).
- Axelrod, R. (1984) *The evolution of cooperation*. New York: Basic Books.
- Becattini, G. (1990) The Marshallian industrial district as a socio-economic notion. In: *F. Pyke, G. Becattini & W. Sengenberger (eds) - Industrial districts and inter-firm cooperation in Italy*. Geneva: International Institute for Labour Studies, pp. 37-51.
- Best, M.H. (1990) *The new competition. Institutions of industrial restructuring* Oxford: Polity Press.
- Bradach, J.L. & R.G. Eccles (1989) Price, authority and trust: from ideal types to plural forms. In: *Annual Review of Sociology*, vol.15, pp. 97-118.
- Brusco, S. (1982) The Emilian model: productive decentralisation and social integration. In: *Cambridge Journal of Economics*, vol.6, pp. 167-189.
- Chandler, A.D. (1977) *The visible hand. The managerial revolution in American business*. Harvard: Harvard University Press.
- Coase, R.H. (1937) The nature of the firm. In: *The Economic Journal*, Nov.1937, pp. 386-405.
- Frances, J. et al. (1991) Introduction. In: *G. Thompson, J. Frances, R. Levacic & J. Mitchell (eds.) - Markets, hierarchies & networks*, pp. 1-21. London: Sage Publications.
- Gambetta, D. (ed.) (1988) *Trust. Making and breaking cooperative relations*. New York: Basil Blackwell.
- Hayek, F. Von (1945) The use of knowledge in society. In: *American Economic Review*, vol.35, pp. 519-530.
- Jevons, W.S. (1871) *Theory of political economy*. Reprints of Economics Classics. New York: Kelley (1965).
- Kornai, J. (1989) *Vision and reality, market and state - contradictions and dilemmas revisited*. New York: Harvester Wheatsheaf.
- Marglin, S.A. (1974) What do bosses do? The origin and functions of hierarchy in capitalist production. In: *Review of Radical Political Economics*, vol.6, no.2, pp. 60-112.
- Marshall, A. (1898) *Principles of economics*. London: MacMillan, Fourth edition (1890).
- Marshall, A. (1919) *Industry and trade*. London: MacMillan.
- Mertens, J.F. (1989) 'Repeated games' and 'Supergames'. In: *J. Earwell, M. Milgate & P. Newman (eds), Game theory, The New Palgrave*. London: MacMillan.
- Mintzberg, H. (1989) *Mintzberg on management - inside our strange world of organizations*. New York: The Free Press.
- Pagano, U. (1991) Property rights, asset specificity, and the division of labour under alternative capitalist relations. In: *Cambridge Journal of Economics*, vol.15, pp. 315-342.

- Ouchi, W.G. (1980) Markets, bureaucracies and clans. In: *Administrative Science Quarterly*, vol.25, pp. 129-141.
- Powell, W.W. (1989) Neither market nor hierarchy: network forms of organization. In: *Research in Organizational Behaviour*, vol.12, pp. 295-336.
- Pyke, F., G. Becattini & W. Sengenberger (eds) (1990) *Industrial districts and inter-firm co-operation in Italy*. Geneva: International Institute for Labour Studies.
- Schreuder, H. (1990) Coase, Hayek, and hierarchy. *Paper for the international symposium on "Interdisciplinary Perspectives on Organization Studies", at the Netherlands Institute for Advanced Study, Wassenaar, May 31- June 1.*
- Simon, H.A. (1959) Theories of decision making in economics and behavioral science. In: *American Economic Review*, pp. 253-283.
- Simon, H.A. (1951) A formal theory of the employment relation. In: *Econometrica*, vol.19, pp. 293-305.
- Smith, V.L. (1989) 'Auctions'. In: *J.Eatwell, M.Milgate & P.Newman (eds) - Allocation, information and markets, The New Palgrave* London: MacMillan.
- Thompson, G., J. Frances, R. Levacic & J. Mitchell (eds.) (1991) *Markets, hierarchies & networks*, London: Sage Publications.
- Tirole, J. (1988) *The theory of industrial organization*. Cambridge: MIT Press.
- Walras, L. (1952) *Eléments d'économie politique pure, ou théorie de la richesse sociale*. R.Pichon et R.Durand-Auzias, Paris, Reprint of the fourth edition (1900)
- Williamson, O.E. (1975) *Markets and hierarchies: analysis and antitrust implications*. New York: Free Press.
- Williamson, O.E. (1985) *The economic institutions of capitalism: firms, markets, relational contracting*. New York: Free Press.
- Williamson, O.E. (1989) Transaction cost economics. In: *R.Schmalensee & R.D. Willig (eds.), Handbook of Industrial Organization*, vol.1, Elseviers Science Publishers, pp. 136-180.
- Williamson, O.E. (1991) Comparative economic organization: the analysis of discrete structural alternatives. *Administrative Science Quarterly*, vol.36, pp. 269-296.
- Williamson, O.E. & W.G. Ouchi (1981) The markets and hierarchies program of research: origins, implications, prospects. In: *A.H. van de Ven and W.F. Joyce (eds.) - Perspectives on Organization Design and Behavior*, pp. 347-370. New York: John Wiley and sons.
- Zukin, S. & P. DiMaggio (1990) Introduction. *Zukin, S. & P. DiMaggio (eds.) - Structures of Capital. The Social Organization of the Economy*, pp. 1-36. Cambridge: Cambridge University Press.